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Brazil. Departamento Nacional do Café.

The ABC of coffee

[Rio de Janeiro]

[1941]

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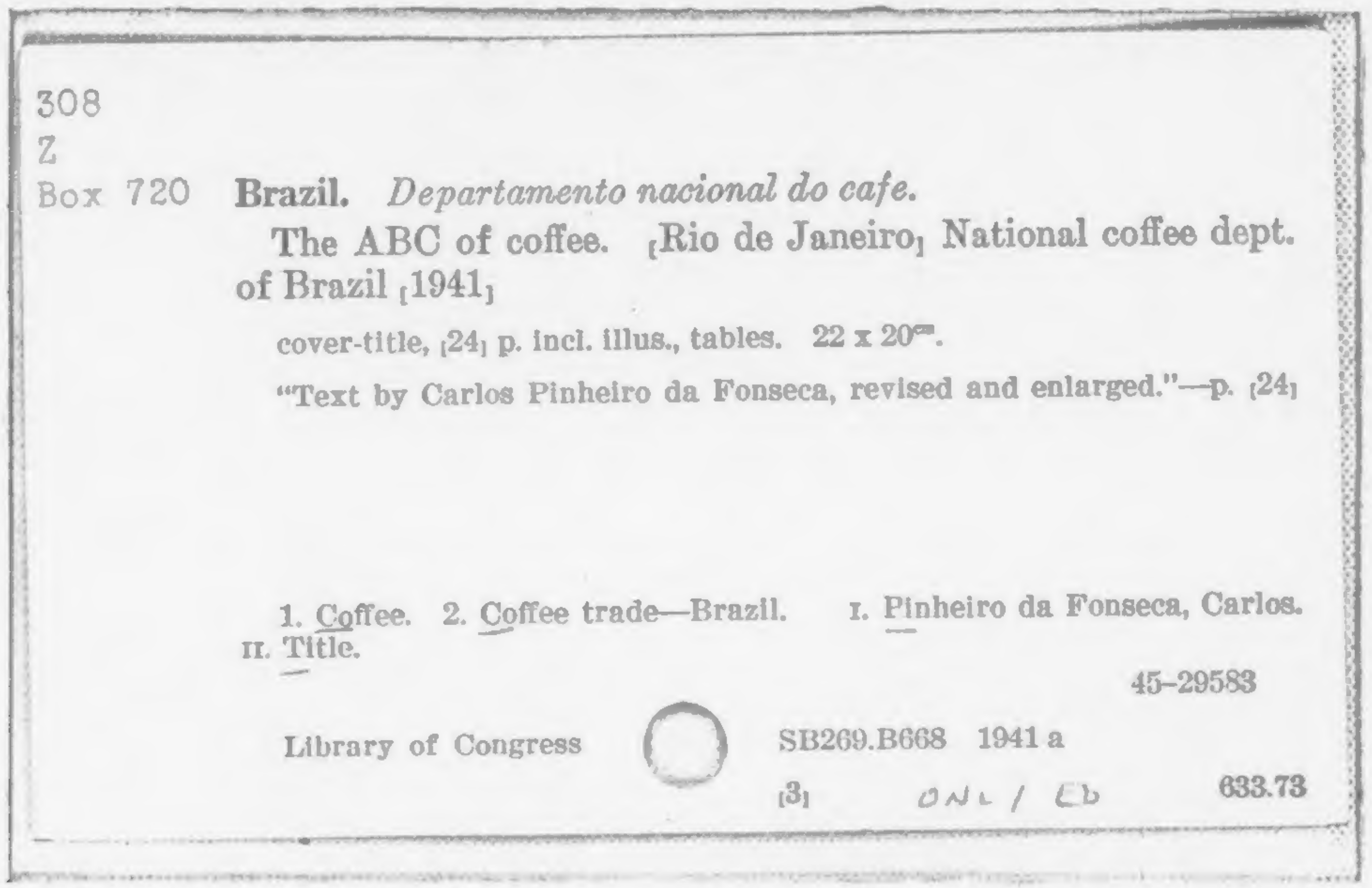

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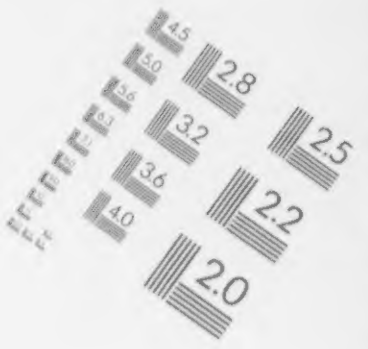

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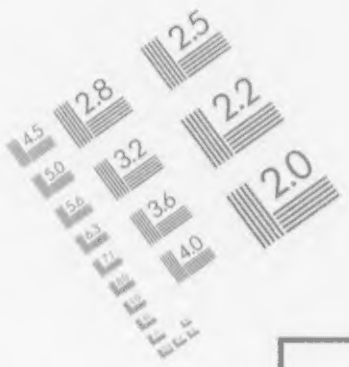

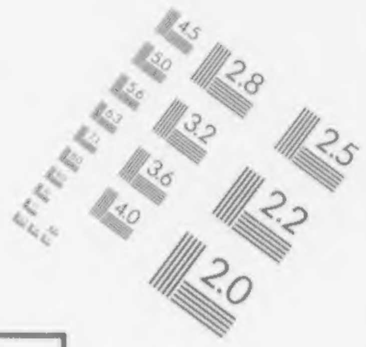

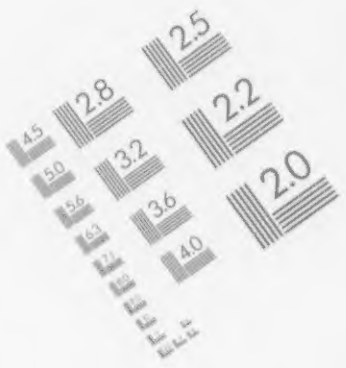

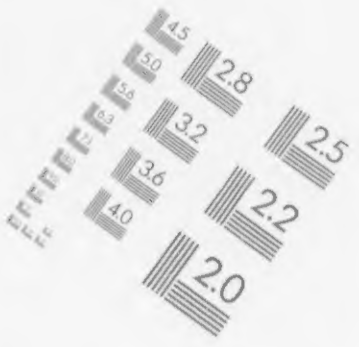

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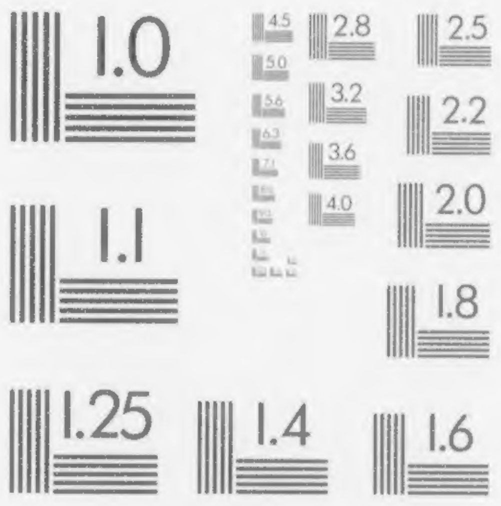

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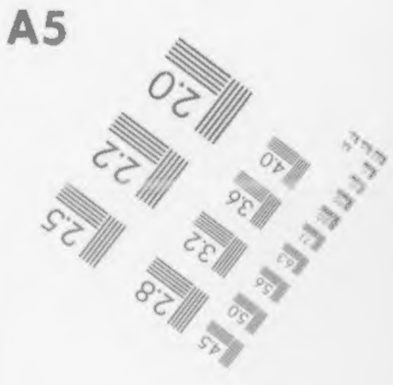

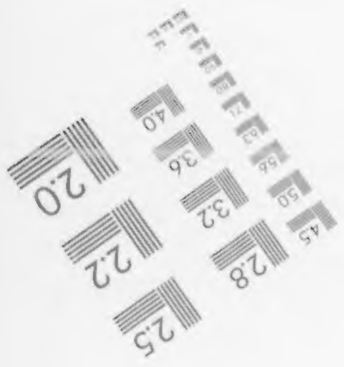

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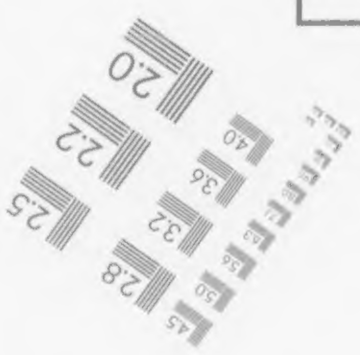

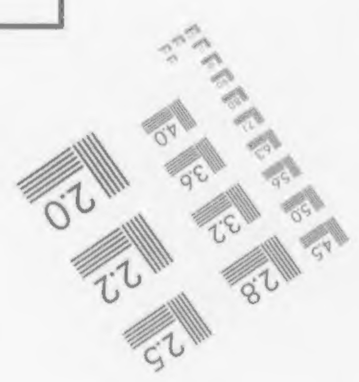

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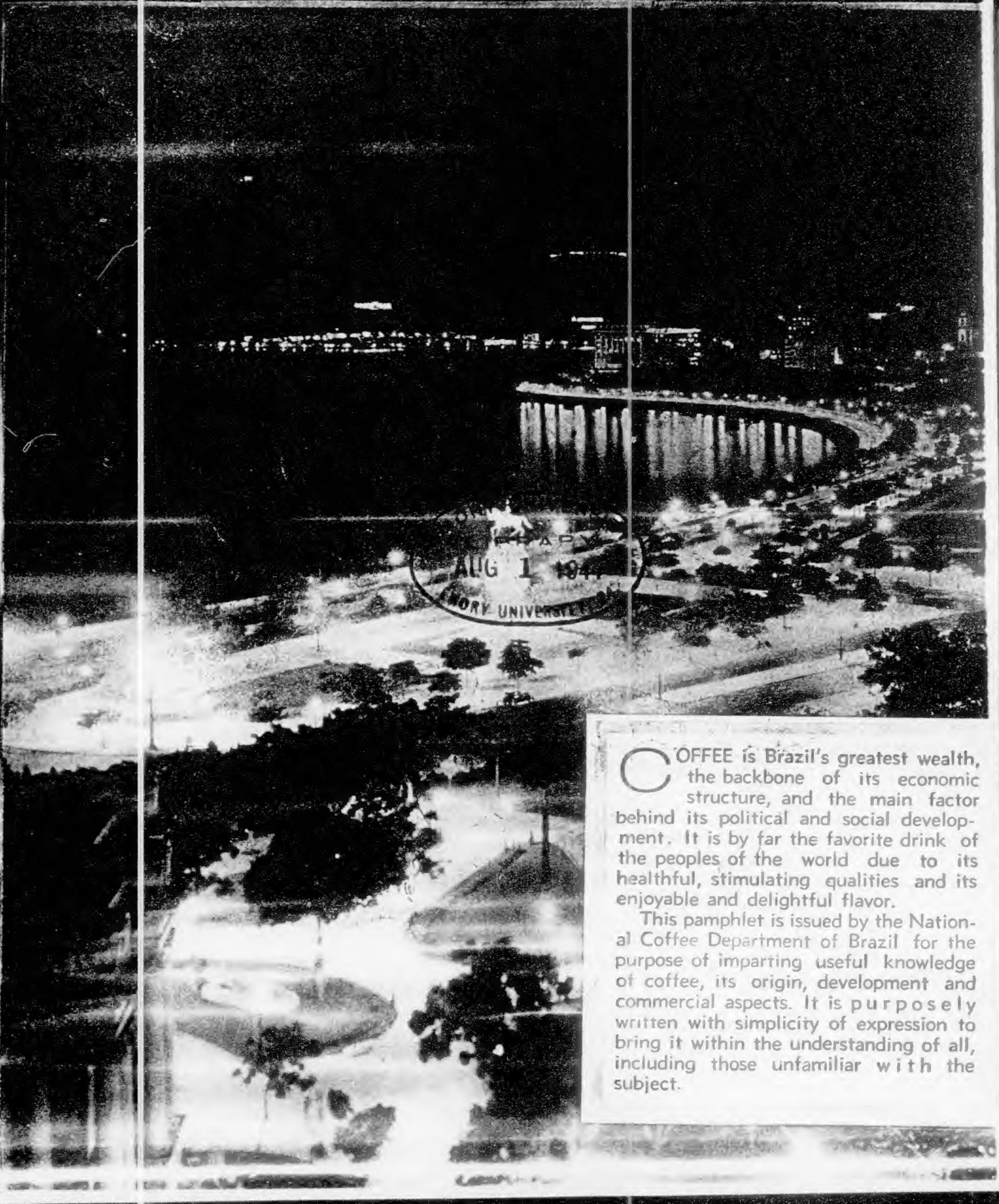
Coffee

The ABC of Coffee

ATIONAL COFFEE DEPARTMENT OF BRAZIL



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COFFEE is Brazil's greatest wealth, the backbone of its economic structure, and the main factor behind its political and social development. It is by far the favorite drink of the peoples of the world due to its healthful, stimulating qualities and its enjoyable and delightful flavor.

This pamphlet is issued by the National Coffee Department of Brazil for the purpose of imparting useful knowledge of coffee, its origin, development and commercial aspects. It is purposely written with simplicity of expression to bring it within the understanding of all, including those unfamiliar with the subject.

COMMERCE

AFTER the treatment of the coffee at the plantation, it is packed in bags of 60 kilos (about 132 lbs) and sent to Brazil's exporting centers, usually coastal markets, where the coffee merchants mix and blend the coffees to comply with the requirements of the exporters and the consuming markets. The process of preparing the coffee for sale varies according to the country for which it is destined, Custom House formalities, and the practices established by the importer, wholesaler, roaster and retailer.

The principal coffee markets, of the world are: New York, New Orleans, San Francisco, Havre, Hamburg and Antwerp. In these markets the coffee is sold on spot or for future delivery. In the first case, the buyer may take immediate possession of the product; in the second, transactions are made, and contracts issued, for future delivery within specified periods — it being possible to make such contracts to cover coffees, still on the strees. These transactions are recorded in the Exchanges of the world.

For consumption, coffee must be roasted. The action of heat on coffee darkens it and brings out its characteristic flavor. Roasters clean the coffee, eliminating any impurities found therein, and often mix various types and qualities to form blends for identification and advertising purposes for sale to consumers through retail distributors. Roasting changes the appearance, consistency, smell, flavor and the composition of the coffee. The roasting process causes the coffee to lose from 12% to 20% in weight and increases its bulk by a third.

The sugar and the dextrine caramelize. The cellulose and the ligneous matters carbonize in part whereby certain substances are developed, which give the drink its properties of flavor and aroma.

Caffeine is the basic element, the useful principle of coffee. To extract this alkaloid from the product is to deprive it of its beneficial properties, transforming the drink into a neutral infusion, a common beverage lacking strength.

Conveyance to the bin

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Conveyance to the bin

Bagging of processed coffee

Caffeol exists in coffee in the form of a mixture with other substances. It is developed by the process of roasting and is a volatile oil little known as yet, a mixture of a pyridic base and a furfuraceous alcohol of a strong and peculiar odor that gives coffee its aroma. But the strength, flavor, and aroma of the infusion are, principally, a result of the combination of caffeine, caffeol and caffetannic acid, formed by the joining of free caffeine with tannic acid.

IMITATIONS OF COFFEE

COFFEE is the object of constant attempts at substitution, such practices going so far as to try to duplicate the beverage with the powder of certain fruits, cereals, leguminous plants, and roasted roots, such as: figs, barley, corn, chicory, chick peas, beans, lentils, date pips, etc. All of these imitations of coffee have an unpleasant taste and the careless or uninformed consumer must consider himself fortunate when they are not harmful to his health.

There are thousands of manufacturers of coffee substitutes spread throughout the world, whose annual production amounts to an impressive number of tons of spurious coffee.

PREPARATION OF THE BEVERAGE

COFFEE may be prepared by infusion, as is done in Brazil and in the majority of the consuming countries, or in the form of a decoction, as is done in the East. In the latter case it is given the name of "Turkish" coffee

There are, of course, many types of drip devices for the preparation of coffee, but the ones most commonly used and the most favored are made of porcelain, enameled ware, glass and aluminum. However, the drip types are all similar in construction and design, containing a filter with small and fine holes, or a movable flannel sack, into which the ground coffee is placed.

The following is one of the most popular methods of making coffee in Brazil. The desired amount of coffee is placed into the filter or sack. A proportionately proper amount of water is boiled separately, and a small quantity of it is poured over the coffee as soon as it starts to boil. At the same time the brew is stirred rapidly with a spoon, preferably of wood, to form a smooth, semi-fluid paste. This is done to retain the aroma of the coffee, as otherwise the coffee grounds would rise to the top when the remainder of the water is poured, with consequent loss of flavor and aroma. The balance of the water is then poured over this same coffee mixture at slow intervals. This allows a slow infusion of the coffee (two to four minutes) which is one of the secrets in good coffee making.

Another method, that is very much in vogue in Brazil and that also gives the drink a splendid flavor, is the use of five cups of water for each cup of ground coffee. If stronger coffee is preferred, only three cups of water should be used to one cup of ground coffee. As soon as this water begins to boil, remove the pot from the fire and pour the cup of ground coffee into the water. Then the pot should be placed back on the fire and the contents stirred slowly for about twenty seconds, which is about the length of time necessary for the second boiling to start. Remove the pot from the fire again and pour the contents into the filter of flannel or closely woven cloth. The cups, in which the coffee is to be served, should be scalded with boiling water. After the preparation of the infusion, the coffee pot and filter should be carefully washed and dried. It is advisable to keep the cloth filter immersed in cold water when it is not in use.

To make coffee by the Turkish method, the coffee must be ground very fine. To each dessert spoon full of powder, add two table spoonfuls of water and add sugar according to taste. This is then put on the fire and removed as soon as the coffee begins to boil. Following this, the decoction is poured into a cup, which should be scalded with boiling water beforehand, and the powder left to settle in the bottom of the cup, which is a matter of a few seconds. The prepared coffee should be sipped slowly.

Coffee is a very sensitive product and takes on the odors that are in its vicinity. It is advisable to keep it in air tight containers, preferably of glass or aluminum. Containers used for coffee should be kept clean. If this is not done, the odor of stale coffee will be imparted to the fresh supply.

In the United States, Iced Coffee is becoming quite popular as a hot weather beverage. This iced coffee is prepared with a strong brew mixed with sugar and served in large tumblers containing ice. Mexican iced coffee is served with cream, vanilla and crushed ice.

There are other appetizing specialties that are prepared with coffee, such as: "New England Cake", "Brazilian Chocolate", "Iced Mocha", "Coffee Ice Cream Punch", "Mocha Parfait", "Coffee Ice Cream", "Coffee Caramel Ice Cream", "Coffee Torte", "Baked Coffee Custard", "Mocha Rice Pudding", as well as others. Also, surprising new recipies utilizing coffee have been created by the masters of the culinary art..

PROPERTIES OF THE BEVERAGE

FRESHLY roasted and ground coffee, added in correct parts to water, and properly prepared, is particularly beneficial to mankind. It acts favorably on the nervous system, blood circulation, muscles, digestion and functioning of the kidneys. It overcomes fatigue and enhances muscular work as well as developing mental activities.

Out of the innumerable studies of notable medical men and scientists, we shall mention the result of an experiment made by Professor Samuel C. Prescott, of the Massachusetts Institute of Technology in the U. S. Being asked to ascertain whether or not coffee was harmful to man, and to give his opinions on the advantages or harmful effects of the chemical principles contained in the beverage, the noted professor expressed himself as follows: "Coffee, when properly prepared, has a remarkable stimulating effect. It relieves fatigue, through the action of caffeine, which acts on the central nervous system. Caffeine is a mild stimulant of the heart, increases strength for muscular work and

Separation by hand

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develops the power of concentration for mental activities and, while eliminating the sensation of fatigue is an efficacious help for prolonged mental work."

The action of caffeine may be compared to that of the lubricating oils on machines, although this analogy is far from perfect. If not absorbed in excessive quantities, caffeine has no harmful effects. It does not harm the physical functions of the body and may be considered, generally speaking and without bias, a mild stimulant. The activity of the human organism is increased for some time, later returning to normal without any unfavorable reaction as is the case with alcoholic stimulation.

The rapid spread of the use of coffee, surpassing that of other temperance drinks, is the result of its intrinsic merits and its wide usefulness.

Coffee is a delectable drink, a caress to the olfactory sense and a notable physical and psychical stimulant. Alcohol stupefies, whereas coffee uplifts. The use of coffee is a benefit to all mankind. Where the consumption of coffee increases, the social scourge of alcohol diminishes. To spread and recommend the use of coffee is a work of social benefit.

INVESTIGATION OF COFFEE BY-PRODUCTS

VARIOUS experiments have been made aiming at the industrial use of coffee, so as to make unnecessary the destruction of surplus coffee in Brazil. The Brazilian chemist, Baptista de Andrade, studied the matter with great care, but his researches did not extend beyond laboratory experiments.

Koeck-Messner discovered a process that was not overly practical, due to the lack of markets for its by-products. Using his method, the following derivatives could be obtained; fodder for cattle, carbon dioxide for refrigeration, alcohol, fusel oil (with which is prepared the solvent for many paints), caffeine, glycerine, oils and fats, tannin and salts.

Rinman, who also turned his attention to this problem, obtained: gas-oil, vegetable oil, caffeine, ammonia sulphate, calcium phosphate, potassium hydrate and hydrogen. This process, like that of Koeck-Messner, could not be adopted.

Studies are now being made of another method; that of the carbonization of coffee at a lower temperature than that used at the coalgas plants. By this process, besides other products, the following are obtained: coffee-coke (extensively used for metallurgical purposes), gas-oil, tar, antiseptic substances similar to creosol, gasoline and a small percentage of a gas very similar to that used for heating purposes in homes. Many other coffee by-products could be mentioned, such as paper, explosives and vegetable silk.

We finally arrive at "Caffelite", a plastic material the success of which is guaranteed in competition with similar products. The process used to obtain the powder, which constitutes coffee plastic material, is very simple in comparison with other industrial methods. It consists of forcing into a resinous state some substances contained in the bean, after extracting therefrom the oil and caffeine by physical and chemical means. An incalculable number of articles can be made with caffelite. For instance: tables, chairs, cups, rulers, inkstands, chips, cigarette-holders, pipes, tooth brushes, statuettes, radios, telephones, electric switches, plates, trunks, ash-trays, combs, etc. It may also be used to make walls, coating for ceilings and floors, as well as heating apparatus.

The National Coffee Department acquired the patent rights from its inventor; and a plant has been erected in Sao Paulo for the production of "Caffelite"

THE NATIONAL COFFEE DEPARTMENT OF BRAZIL

(D. N. C.)

THE effect of the financial panic of 1930 on the policy of valorization led the Federal Government of Brazil to give direct assistance to the coffee growers to save them from ruin, which would have been inevitable if the accumulated stocks, piled up due to retention, were suddenly freed to the market. To carry out the vast activities of this plan, the National Coffee Council was created on the 24th of April, 1931. This council was substituted by the present National Coffee Department on February 10, 1933. The D. N. C. is an autonomus institution, subordinated to the Ministry of Finance, and constitutes the largest independent organization of directed economy in the world. The creation of this Department was an urgent and dire necessity, brought about by circumstances that demanded, for the proper safeguarding of Brazilian wealth, a single and systematic command of the campaign of protection and defense of the largest agricultural industry of the country.

Conveying in trucks

Instituted to guide and discipline every angle of the production and commercial life of coffee, the Department has fulfilled the task entrusted to it by the Government of President Getulio Vargas. Its primary function is that of maintaining the statistical equilibrium between the production of coffee and Brazil's export possibilities. The purpose behind this work is to guarantee a just price for the product, sufficient to cover the expenses incurred by the growers and guarantee a fair profit to be applied to the country's commercial balance. The execution of this program takes from the market, by means of the "quota of equilibrium", the excessive production of coffee. It also establishes regulations for the distribution of the crops, and carries out the legal provisions of the Government with regard to the transit and commercial aspects of coffee. The Department has carried out a work of restoration, in conjunction with the policy of free competition that was started on November 3rd, 1937.

The transition which took place in coffee should be easy to understand. The policy followdevelops the power of concentration for mental activities and, while eliminating the sensation of fatigue, is an efficacious help for prolonged mental work."

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Weighing

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THE NATIONAL COFFEE DEPARTMENT OF BRAZIL

(D. N. C.)

THE effect of the financial panic of 1930 on the policy of valorization led the Federal Government of Brazil to give direct assistance to the coffee growers to save them from ruin, which would have been inevitable if the accumulated stocks, piled up due to retention, were suddenly freed to the market. To carry out the vast activities of this plan, the National Coffee Council was created on the 24th of April, 1931. This council was substituted by the present National Coffee Department on February 10, 1933. The D. N. C. is an autonomus institution, subordinated to the Ministry of Finance, and constitutes the largest independent organization of directed economy in the world. The creation of this Department was an urgent and dire necessity, brought about by circumstances that demanded, for the proper safeguarding of Brazilian wealth, a single and systematic command of the campaign of protection and defense of the largest agricultural industry of the country.

Conveying in trucks

Instituted to guide and discipline every angle of the production and commercial life of coffee, the Department has fulfilled the task entrusted to it by the Government of President Getulio Vargas. Its primary function is that of maintaining the statistical equilibrium between the production of coffee and Brazil's export possibilities. The purpose behind this work is to guarantee a just price for the product, sufficient to cover the expenses incurred by the growers and guarantee a fair profit to be applied to the country's commercial balance. The execution of this program takes from the market, by means of the "quota of equilibrium", the excessive production of coffee. It also establishes regulations for the distribution of the crops, and carries out the legal provisions of the Government with regard to the transit and commercial aspects of coffee. The Department has carried out a work of restoration, in conjunction with the policy of free competition that was started on November 3rd, 1937.

The transition which took place in coffee should be easy to understand. The policy follow-

ed after the year 1930 was that of assuring the defense of coffee within the economy of the product. It was impossible, however, to proceed in this same manner forever without the cooperation of other countries.

This cooperation was denied Brazil at the Havana Conference of 1937; therefore, Mr. Arthur de Souza Costa, Minister of Finance, with the full approval of President Getulio Vargas, started the policy of "open competition". The export tax, proceeds of which were used to finance the burning of coffee, was reduced from 45$000 to 12$000 per bag and the presidency of the D. N. C. was entrusted to Mr. Jayme Fernandes Guedes, a man of dynamic action.

In addition to the foregoing, the Department has also promoted propaganda in foreign countries for the purpose of increasing consumption of Brazilian coffee in the existing markets and developing new markets. In this regard, special mention should be made of the work done at such international events as: The New York World's Fair; The International Exposition at San Francisco, California; the Fairs of Bari and Milan; and the recent Exhibitions of Brazil in Buenos Aires and Montevideo. In all of these Brazilian coffee met with extraordinary success. As a result of this success, various new blends of coffee were introduced in the American market with the suggestive slogan "Equal to that consumed at the Brazilian Pavillion".

It is interesting to see the actual results obtained through this international propaganda. The new method of propaganda, already in operation in some countries, consists, mostly, of establishing the habit of using good coffees, free from impurities and admixtures.

Thanks to this intelligently guided policy, Brazil has been able to export to foreign countries during 1938 and 1939 not less than 33,848,515 bags, which represents a new high in coffee history.

The D. N. C. is the most successful example of directed economy ever witnessed by the modern world.

THE INTER-AMERICAN COFFEE QUOTA AGREEMENT

THE European war, as already explained, has entirely changed the coffee picture of the world. This is also true of all international trade. The consumption of the European markets during the crop year 1938-39 was 43.39% of the coffee imports of the world. These markets, as well as those of North Africa, being almost entirely closed by the war, left the coffee producing countries of America in a very bad economic situation as they had shipped during the above mentioned crop year 86.26% — Brazil's share being 55.76% — of the world's coffee exports. The other continents accounted for the balance of 13.74%, of which Africa supplied 8.51%, Oceania 5.23% (Dutch East Indies 4.15%).

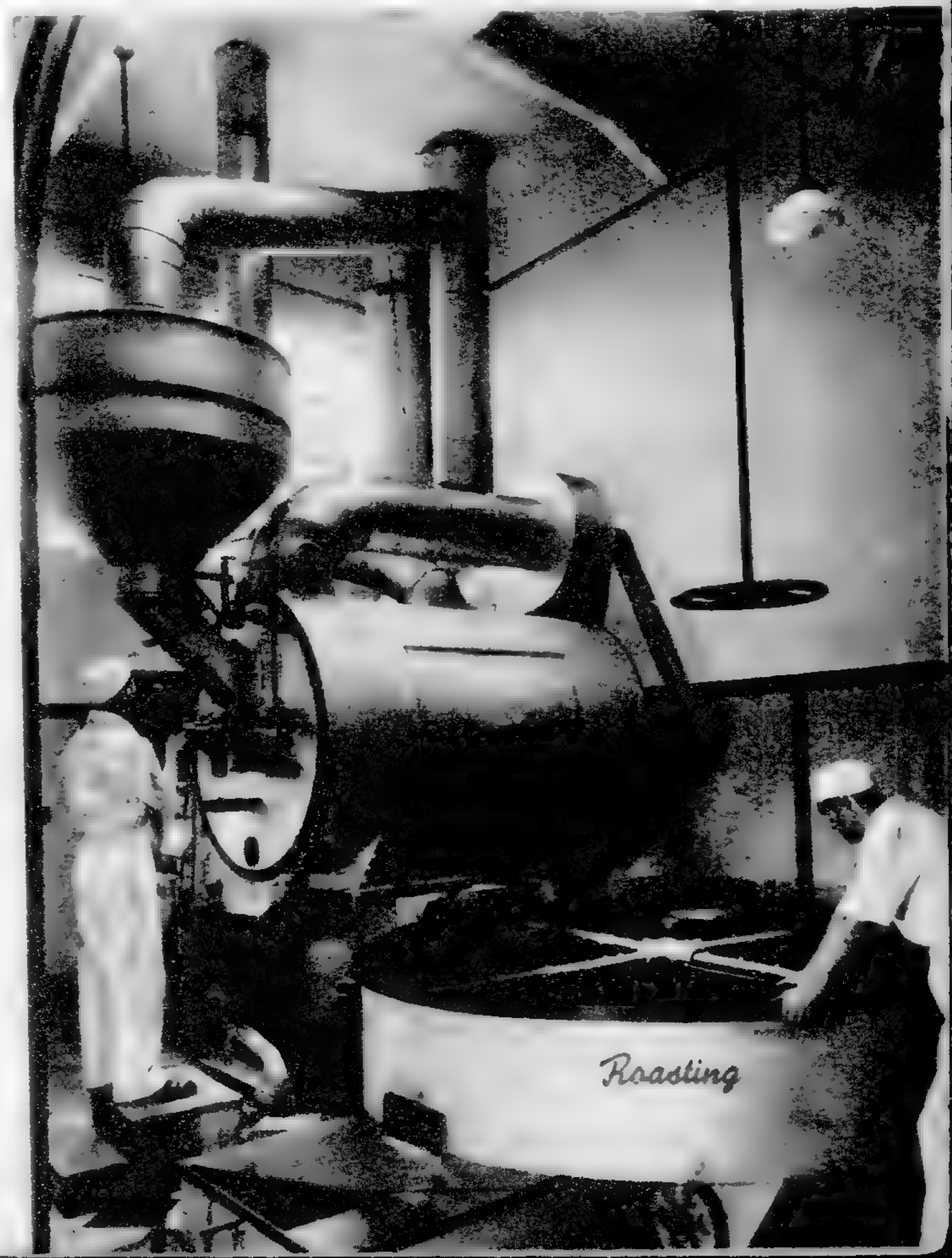
In view of this situation, the Pan American Coffee Bureau intervened. This organization was created on December 7th, 1936, as a result of a resolution of the Conference of Bogotá, a meeting of the producing countries. The aims of this organization were to make propaganda and promote the interests of coffee in the United States market. The original participating countries of the Bureau were Brazil, Colombia, Cuba, El Salvador, Nicaragua and Venezuela. Later, the number of participating members was increased to eight with the entrance into the Bureau of Costa Rica and Mexico.

Thanks to the efforts of this Bureau, it was possible, with the support of Brazil, to come to an agreement for the allocation among the coffee producing countries of the U.S. market. This was done by the adoption of quotas allotted each country, based on their exports of 1938. This policy is carried out under the terms of the Inter-American Coffee Quota Agreement, signed at Washington, D. C. the 28th of November, 1940. This agreement is to remain in force until September 30th, 1943, the first quota year starting as of October 1st, 1940.

The distribution of the Quotas is shown in the accompanying table and it will be noted that Brazil's share is 9,300,000 bags, or 58.49%.

The Inter-American Coffee Board, installed on April 18th, 1941, was created to administer the quota plan. The Board is composed of all the signatory countries with a total of 36 votes, distributed as follows: Brazil 9, Colombia 3, Cuba 1, Dominican Republic 1, Costa Rica 1, Ecuador 1, El Salvador 1, Guatemala 1, Haiti 1, Honduras 1, Mexico 1, Nicaragua 1, Peru 1, Venezuela 1, and the United States 12, making the total 36.

Thanks to the Inter-American Coffee Quota Agreement, although it is necessary for the signatory countries to hold the coffee previously exported to the now closed markets, they are compensated in that they are now receiving better prices, practically double, in consequence of this outstanding agreement.



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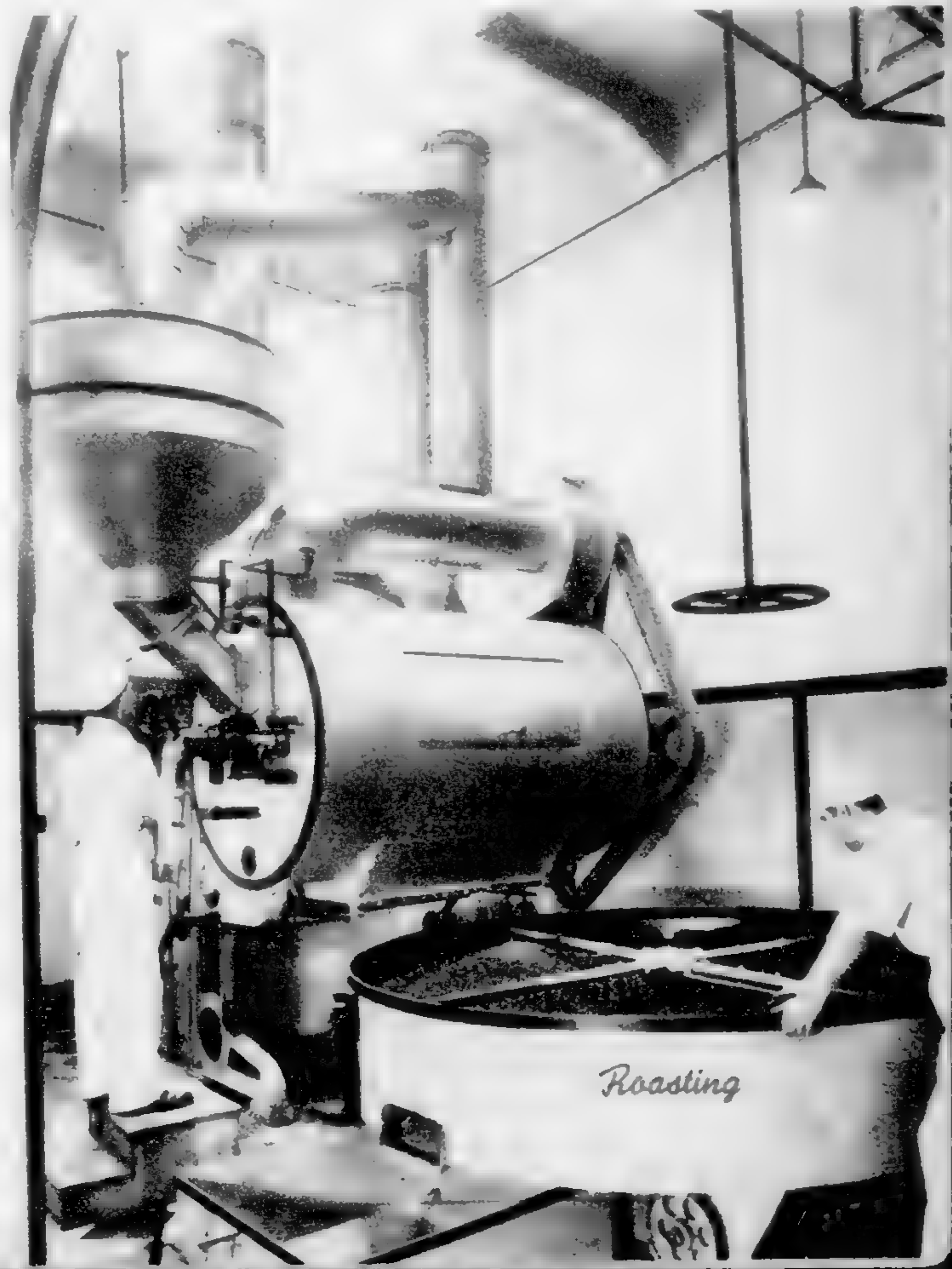

Roasting

INTER AMERICAN COFFEE QUOTA AGREEMENT YEARLY ALLOTMENTS

SIGNATORY COUNTRIES	Annual Basic Quotas	Percentage
Brasil	9,300,000	58 49
Colombia	3,150,000	19.81
Costa Rica	200,000	1 26
Cuba	80,000	0 50
Dominican Republic	120,000	0 75
El Salvador	600,000	3.77
Ecuador	150,000	0.94
Guatemala	535,000	3 37
Haiti	275,000	1 73
Honduras	20,000	0 13
Mexico	475,000	2.99
Nicaragua	195,000	1 23
Peru	25,000	0.16
Venezuela	420,000	2 64
Total signatory countries	15,545,000	97 77
Non signatory countries	355,000	2 23
Grand Total	15,900,000	[illegible]

COFFEE RECIPES

BRAZILIAN CHOCOLATE

2 squares unsweetened chocolate
1 cup strong coffee
3 tablespoons sugar
3 cups milk
Dash of salt

Add chocolate to coffee on top of double boiler and place over low flame, stirring until chocolate is melted and blended. Add sugar and salt, and boil 4 minutes, stirring constantly. Place over boiling water. Add milk gradually, stirring constantly, then heat. When hot, beat with rotary egg beater until frothy. Cool. Top with whipped cream, if desired

NEW ENGLAND CAKE

2 cups brown sugar
1 cup butter and lard mixed
1 cup black coffee
2 eggs
1 teaspoon cinnamon
1 teaspoon nutmeg

1 teaspoon soda dissolved in 1/4 cup hot water
1 teaspoon baking powder sifted with 3 cups flour

Bake in loaf pan in moderate oven.

ICED COFFEE

To make clear full flavored iced coffee, the hot infusion should be poured over ice cubes or cracked ice in tall glasses. The ice dilutes the coffee so it must be strong to start with. Use four tablespoons of ground coffee to each measuring cup of water. From one-half to three-fourths cup of hot coffee is needed for each serving, depending on the size of glasses used.

If your coffee maker is not large enough to make the coffee, use the steeped or "boiled" method of making and pour it into the hot coffee pot, percolator or a pitcher for serving.

Serve with sugar and plain thick or whipped cream.

MOCHA RICE PUDDING

1 cup evaporated milk
1 cup regular strength coffee
Chocolate, unsweetened, 1 square (1 oz.)
Sugar, 1/2 cup
Salt, 1/2 teaspoon
Rice, cooked, 2 cups.

1 — Combine milk and coffee in saucepan or top of double boiler; add chocolate cut in small pieces.
2 — Heat until chocolate melts; add sugar and salt and mix well.
3 — Add rice and cook until thick, stirring to prevent sticking.
4 — Cool, and arrange in serving dish or sherbet glasses Chill. Serve with whipped cream — Serves 6.

COFFEE ICE CREAM

Top milk, 1 cup
Coffee, double strength, 1/2 cup
Sugar, 1/2 cup
Cornstarch, 1-1/2 tablespoons
Salt, 1/8 teaspoon
Eggs, separated, 2
Heavy cream, whipped, 1 cup

1 — Scald milk and coffee together. Mix sugar, cornstarch and salt and add to beaten egg yolks.
2 — Pour hot liquids onto egg yolk mixture and return to saucepan, or top of double boiler, and cook slowly about 20 or 25 minutes, stirring occasionally. Cool.
3 — Beat egg whites until stiff; fold into cooled custard; fold in whipped cream; pour into refrigerator tray or ice cream freezer.
4 — If using a refrigerator remove when firm and beat until fluffy; return to tray and finish freezing. Serves 8.

COFFEE CARAMEL NUT ICE CREAM

Same recipe as Coffee Ice Cream. Add 2/3 cup chopped California walnuts to ice cream after beating.

Coffee a joy to children

INTER-AMERICAN COFFEE QUOTA AGREEMENT
YEARLY ALLOTMENTS

SIGNATORY COUNTRIES	Annual Basic Quotas	Percentage
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Honduras	20,000	0.13
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Peru	25,000	0.16
Venezuela	420,000	2.64
Total signatory countries	15,545,000	97.77
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1 cup strong coffee
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3 cups milk
Dash of salt

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1 cup evaporated milk
1 cup regular strength coffee
Chocolate, unsweetened, 1 square (1 oz.)
Sugar, 1/2 cup
Salt, 1/2 teaspoon
Rice, cooked, 2 cups.

1 — Combine milk and coffee in saucepan or top of double boiler; add chocolate cut in small pieces.

2 — Heat until chocolate melts; add sugar and salt and mix well.

3 — Add rice and cook until thick, stirring to prevent sticking.

4 — Cool, and arrange in serving dish or sherbet glasses Chill. Serve with whipped cream — Serves 6.

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Salt, 1/8 teaspoon
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COFFEE CARAMEL NUT ICE CREAM

Same recipe as Coffee Ice Cream. Add 2/3 cup chopped California walnuts to ice cream after beating.

Coffee a joy to children

COFFEE TORTE

Cake flour, cup
Baking powder, 1 teaspoon
Salt, few grains
Eggs, 4, separated
Sugar, 1 cup
Coffee, double strength, 2 tablespoons.

ICED MOCHA

Chocolate syrup, 4 tablespoons
Coffee, double strength, 2 cups
Sugar, as needed
Milk, 2 cups

1 — Mix chocolate syrup with coffee and add sugar; chill.

2 — Add cold milk; top with whipped cream or ice cream. Makes 4 tall glasses.

COFFEE ICE CREAM PUNCH

Coffee, regular strength, 1 quart
Chocolate ice cream, 1-1/2 pints
Heavy cream 3/4 cup
Almond flavoring, 1/4 teaspoon
Nutmeg

1 — Chill coffee. Place one-half chocolate ice cream in punch bowl and add coffee. Mix until cream is partially melted.
2 — Whip cream; add flavoring.
3 — Place whipped cream and remainder of ice cream over top of mixture. Sprinkle whipped cream with nutmeg. Serves 12.

COFFEE CARAMEL ICE CREAM

Sweetened condensed milk, caramelized, 2/3 cup
Double strength coffee, hot, 1/2 cup
Vanilla, 1-1/2 teaspoons
Heavy cream 1 cup

1 — Immerse can of sweetened condensed milk in pan of water and boil 3 hours. Cool and measure.
2 — Add hot coffee and vanilla. Blend, using rotary beater or electric mixer; chill.
3 — Fold in whipped cream.
4 — Pour into freezing tray of refrigerator and freeze quickly until firm.
5 — Remove to chilled bowl and beat until light and smooth.
6 — Return immediately to refrigerator and finish freezing. Serves 8.

BAKED COFFEE CUSTARD

Egg yolks, 3 or, if whole eggs, 2
Sugar, 1/3 cup
Salt, 1/4 teaspoon
Coffee, double strength, 2 teaspoons
Milk, 1 pint, scalded

1 — Beat egg yolks, or whole eggs, slightly.
2 — Add sugar, salt and coffee.
3 — Gradually add scalded milk, stirring constantly.
4 — Pour into custard cups and place in shallow pan containing warm water to depth of 1 inch on the cups.
5 — Bake in moderate oven, 325.° F., about 50 minutes, or until knife comes out clean when inserted in center of custard. Serves 4.

MOCHA PARFAIT

Sugar, 3/4 cup
Coffee, double strength, 1/2 cup
Egg whites, 3
Chocolate, 1/2 square, melted
Vanilla, 1/2 teaspoon
Cream, 1 cup, whipped
Nuts, 1/2 cup, broken in pieces

1 — Boil sugar and coffee to 238.° F., or until it forms a soft ball in cold water.
2 — Pour over stiffly beaten egg whites; fold in melted chocolate. Cool.
3 — Add vanilla; fold in whipped cream and nuts, if desired. Pour into refrigerator tray and freeze without stirring. Serves 8.

Text by Carlos Pinheiro da Fonseca, revised and enlarged.

WITH the publication of this "ABC OF COFFEE", the purpose of which is to divulge interesting facts of the most important article of our export trade, the National Coffee Department of Brazil at this time wishes to pay special tribute to President Getulio Vargas to whom the coffee growers of Brazil owe much for the fact that coffee now enjoys its rightful place in the commercial world.

Publisher's Gift
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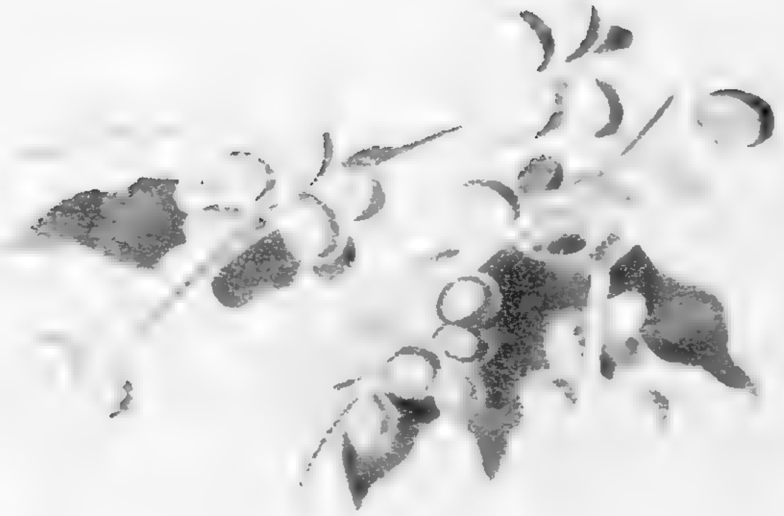

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The state of panic, in which the coffee industry found itself at that time, was the outcome of the almost complete economic disorganization which shook the entire structure of all public and private wealth. But the Brazilian Chief of State, by acting with the firm decision of a great statesman, knew how to surmount difficulties. Thanks to his many wise provisions, he reestablished the lost confidence.

The legislative action of the President, accompanied always by practical measures, can be divided into two phases. First, that of the Government born out of the Revolution of 1930 and, second, that of "The New State". The first phase was started with the removal from the market, by purchase, of the unsaleable stocks of coffee, which stocks hindered the normal export of São Paulo's coffee production. This move was followed by the creation of the National Coffee Department, which brought within federal control a problem of truly national importance. The second phase was characterized by the adoption, in November of 1937, of the policy of meeting competition, through measures which made it possible for Brazil to register the years of 1938 and 1939 as the greatest two year period in its history of coffee exportation. Both phases were based on the principle of maintenance of the statistical balance between production and exportation. This policy was achieving successful results when the second world war, which began on September 1st, 1939, presented new problems to all coffee producing countries. Thanks to the action of the Pan American Coffee Bureau, it was possible to find a truly Pan American solution in the form of the Inter-American Coffee Quota Agreement which was signed in Washington, D. C., on November 28th, 1940. This agreement constitutes an outstanding example of the American Good Neighbor Policy. President Vargas gave the full support of his Government to this agreement, ratifying same through Decree No. 2956 dated January 17th, 1941. Furthermore, he adopted measures of an internal nature to assist Brazil's coffee growers and merchants in the emergency that had arisen due to the war.

Coffee harvest

The ABC *of* Coffee

THE WORD "COFFEE"

THE word coffee, from the Arabic **qahwah** derived from the Turkish word **kahué**, has survived until the present day. Those countries using the drink adapted its name to their own manner of pronunciation maintaining, with rare exceptions, a form similar to the Turkish word which served as its root. For example: **café**, in French; **coffee**, in English; **Kaffee**, in German; **coffea** (scientific denomination), in Latin; **caffè**, in Italian; **kaféo**, in Greek; **kaffe**, in Swedish and Danish; **koffie**, in Dutch; **kophe**, in Russian; **kávé**, in Hungarian; **kawa**, in Polish; **kawa**, in Malayan; **ca-phe**, in Annamite; **kia-fey**, in Chinese; **kahvi**, in Finnish; **cafea**, in Rumanian and **café**, in Spanish and Portuguese. The derivation of the word coffee from **Kaffa**, an Abyssinian town, is considered pure fantasy.

The original meaning of **qahwah** is **strength.** The Arabs called the coffee tree "bunn" and the drink "bunchum"

NATIONAL COFFEE DEPARTMENT OF BRAZIL

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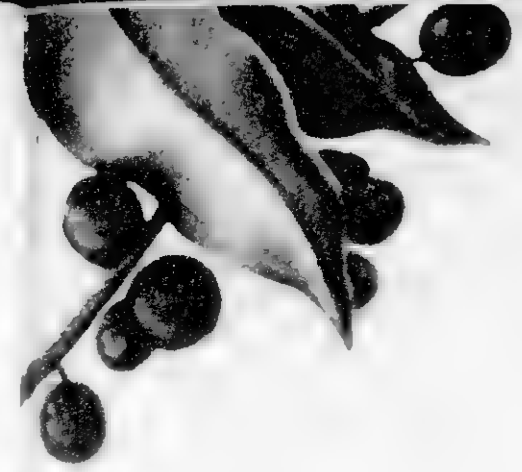


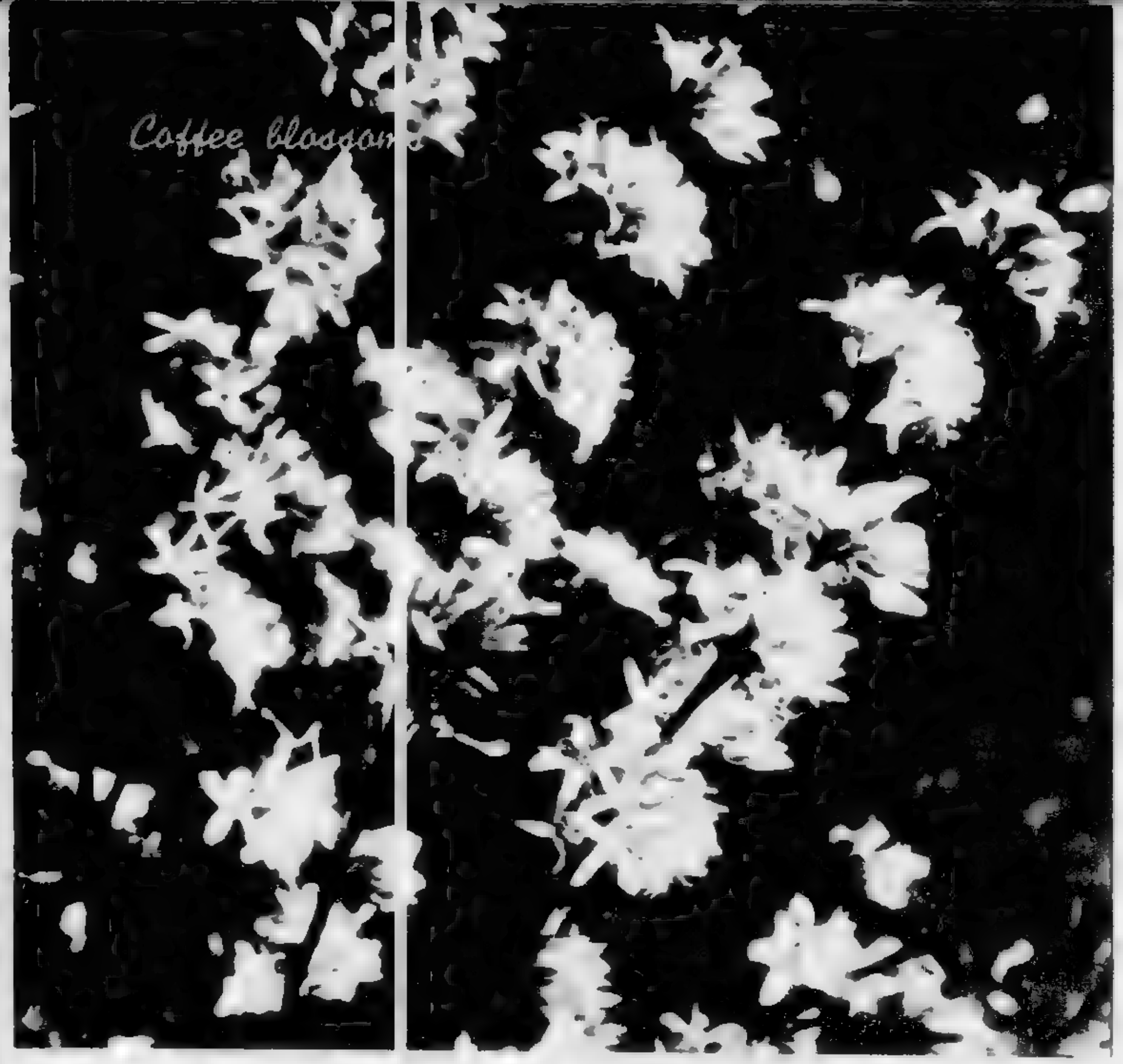
The ABC of Coffee

THE WORD "COFFEE"

THE word coffee, from the Arabic **qahwah** derived from the Turkish word **kahué**, has survived until the present day. Those countries using the drink adapted its name to their own manner of pronunciation maintaining, with rare exceptions, a form similar to the Turkish word which served as its root. For example: **café,** in French; **coffee,** in English; **Kaffee,** in German; **coffea** (scientific denomination), in Latin; **caffè,** in Italian; **kaféo,** in Greek; **kaffe,** in Swedish and Danish; **koffie,** in Dutch; **kophe,** in Russian; **kávé,** in Hungarian; **kawa,** in Polish; **kawa,** in Malayan; **ca-phe,** in Annamite; **kia-fey,** in Chinese; **kahvi,** in Finnish; **cafea,** in Rumanian and **café,** in Spanish and Portuguese. The derivation of the word coffee from **Kaffa,** an Abyssinian town, is considered pure fantasy.

The original meaning of **qahwah** is **strength.** The Arabs called the coffee tree "bunn" and the drink "bunchum"

NATIONAL COFFEE DEPARTMENT OF BRAZIL



Coffee blossoms

USE OF COFFEE

COFFEE was first used as solid **food** later as **wine,** later still as **medicine** and, finally, as a **drink.** As food the berry was crushed and fat added to it, the mixture being molded into a spherical shape. Each ball, more or less the size of a billiard ball, was a man's nourishment for one day. Thanks to this system of sustenance, the nomad population did not fear the lack of food during the long journeys across the deserts, where oases were few and far between. To this day there are some nomad African tribes that still use coffee in this form, as food.

This shows that there is really nothing new under the sun, as the now famous concentrated form of food had been in use more than 500 years ago. These concentrated forms of food are much sought after by those dull individuals who look upon eating as a necessary evil rather than an agreeable pleasure.

The next method adopted was to make a wine with the coffee berry, through the fermentation of the husk and pulp. This was followed by pouring boiling water over the dried husk. After that, the roasting of the dry beans mixed with the husks was started, out of which a decoction was prepared. It was much later that the practice of reducing the coffee to a powder in mortars was established. The use of coffee grinders is of rather recent date.

LEGENDS

WHEN was coffee first used as a drink? This fades into the darkness of the past, as that past becomes more and more remote. When historical data is lacking, fables prevail. Coffee is not an exception to this rule and also has its legends. From among them, the most widely known and often repeated is that of an Arab shepherd whose name was Kaldi. He noted that his goats, because of the voracity which is peculiar to their kind, after eating the leaves and the fruit of a certain wild shrub, became animated and more agitated than usual. Actuated by natural curiosity, the shepherd experimented to see what effects the mysterious fruit would have upon himself, and was amazed with the results. He related his experience to a monk of a convent in the vicinity where his flock grazed, explaining to him the peculiar sensation of contentment that he had experienced. The monk, in turn, ate of the fruit and, after experiencing the same peculiar effects of stimulation, prepared a decoction with the beans. He served the drink to other members of the religious order and, thanks to the properties of the magical potion, they were enabled to prolong their ceremonials into the late hours of the night without the need of sleep.

Another widely spread legend is that of Sheik Omar who was exiled to Ousab in the Arabian desert because of dissensions with his superiors. Abandoned without food, to save himself from starving Omar ate the herbs and fruit he found near at hand. The attractive berries of a certain shrub were a temptation to him. Eating them Omar felt as reborn to a new life, experiencing a state of good health which he had never enjoyed before. He attributed **magical** properties to the strange plant. By washing the beans and by boiling them in water the results were even better. When visited by sick people, he bade them drink of the miraculous potion, which eased and cured pain and weakness. It did not take long for the news of the success of the new panacea to be known. The retreat of the unfortunate exile became the center of pilgrimage and his fame was such that Omar, not long after, was asked to return to Mocha and entered the city in triumph amid the enthusiastic applause of the people. A monastery was built in honor of the sheik who was later canonized.

THE USE OF COFFEE SPREADS THROUGHOUT THE WORLD

COFFEE, which in the beginning was the privilege of the holy, did not take long to cross the boundaries of monasteries to become the drink of the common man. A native plant of Ethiopia, the coffee tree was transplanted to Arabia in the XIV century where the drink, made of its fruit, was received with great success. From Arabia it was transplanted to Egypt, thence to Turkey, where, in 1554, the first public coffee house was inaugurated. It appeared in Venice during the year 1615, in France in 1644, in England and Vienna in 1650, and in North America in 1668.

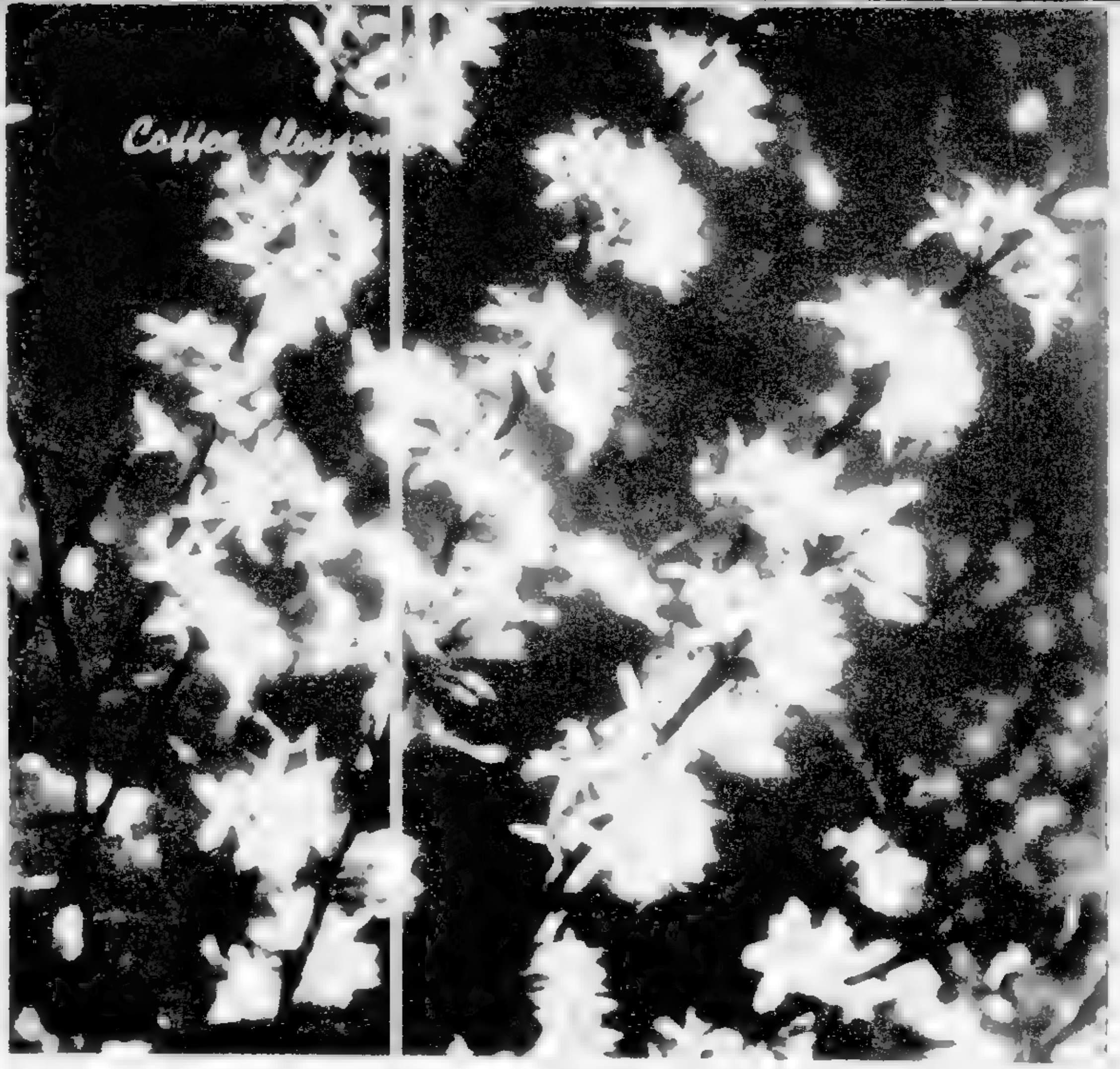
The first coffee house in London was opened to the public in 1652 and thus, little by little, the use of the drink spread throughout the world in spite of its enemies, and continuous religious persecutions.

THE FIRST CULTIVATION OF COFFEE

THE Arabs were the first growers of coffee, and used every means at their command to prevent the spread of the industry to other countries, but their efforts were in vain. In 1610 the first coffee trees were planted in Mysore, India; in 1640 the Dutch were already studying the possibility of its cultivation. Coffee plantations were very prosperous in Java during the year 1696 and the first samples of coffee were received at the Botanical Gardens of Amsterdam in 1706. Later, Paris received samples of the product from Amsterdam and, in 1714, the Dutch introduced the plant in Surinam (Dutch Guiana).

In 1720 Gabriel Mathieu de Clieu, a French officer, left France for the Antilles and brought with him three young coffee plants. His vessel met with a violent storm and the voyage was prolonged more than anticipated. As a result of this delay, food provisions were exhausted and water was rationed daily to the passengers and crew. The officer, unhesitatingly depriving himself of his share of the water ration, sprinkled it on the plants and, by this great sacrifice, finally

Partial view of a coffee plantation



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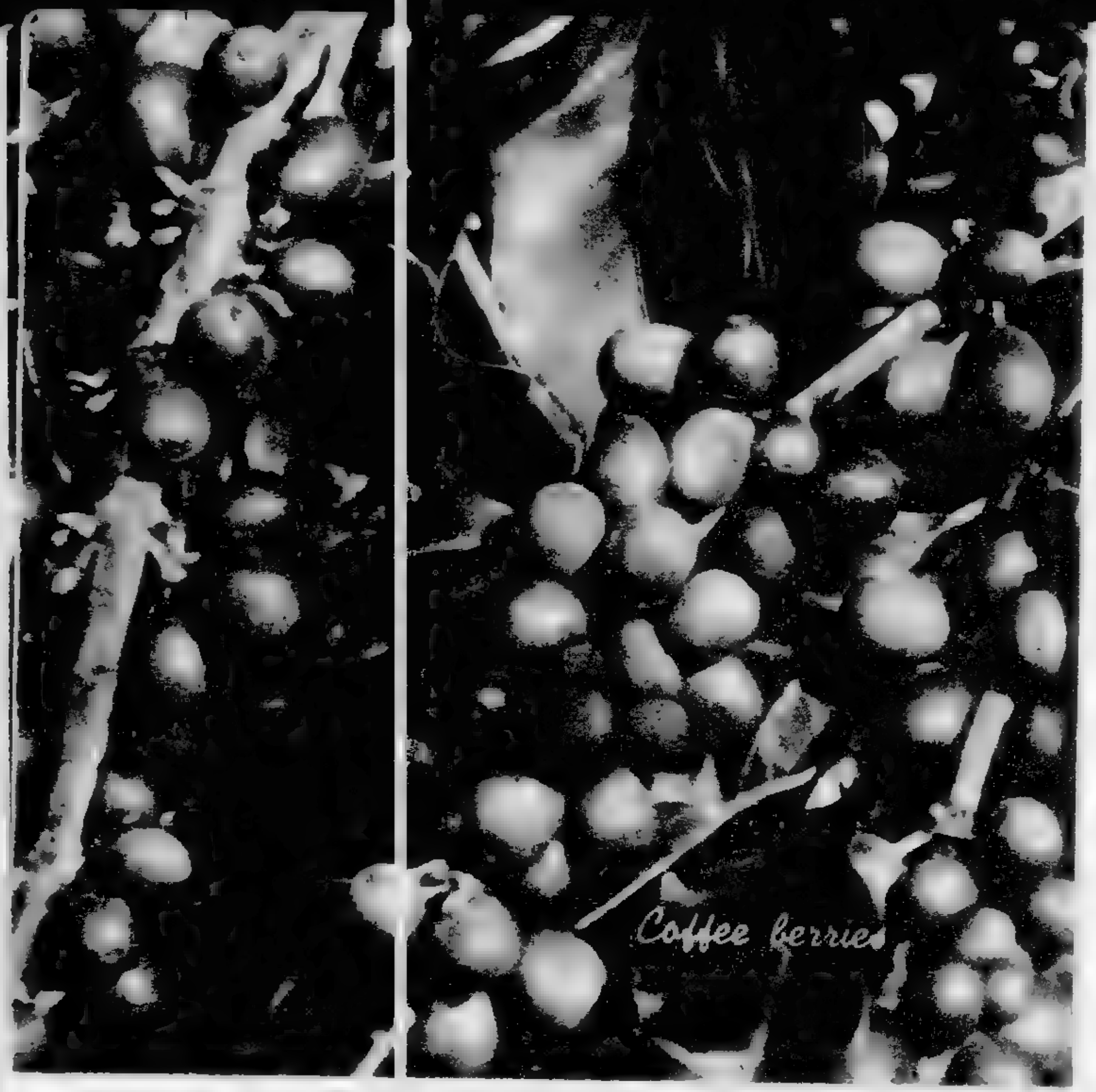

Coffee berries

arrived in Martinique with one out of the original three plants.

From Dutch Guiana, coffee spread to the West Indies and then on to French Guiana from whence it was brought to Brazil, and first grown in Belem of Pará in 1727, by Lieutenant Captain of the Coast Guard Francisco de Mello Palheta, during the reign of D. João V.

From the Northern States of Brazil, the coffee finally found its way to Rio de Janeiro, from where it gradually spread to the central and southern states, reaching its highest productivity in this zone of the "PURPLE-RED EARTH".

AREAS OF COFFEE CULTIVATION

WHERE does the coffee tree flourish? The tree thrives in the wide belt between parallels 24° southern latitude and 24° northern latitude, which is approximately the area between the Tropics of Capricorn and Cancer. Of the five continents, Europe, situated well to the north of the Tropic of Cancer, is the only one where coffee is not produced.

In Africa, its country of origin, we find the coffee tree growing, both wild and under cultivation, in Abyssinia, Eritrea, Somaliland, Kenya, Uganda, Tanganyika, Rhodesia, Mozambique, Angola, the Belgiam and French Congos, Nigeria, the Gold Coast, the Republic of Liberia, Sierra-Leone, the Mascarene Islands, Cape Verde and San Thomas Islands. In Asia the tree grows on the Arabian Peninsula, India, Indo-China, etc. In Oceania we find coffee growing on a large number of Islands. On this side of the Atlantic Ocean we find the tree growing in Mexico, all of the Central Americas, the West Indies, and practically all of South America, except the southern-most section, and notably in Brazil, where conditions are most conducive to the successful production of coffee.

PRODUCTION OF COFFEE

BRAZIL, as the world's largest grower, contributes nearly two-thirds of the total production of the world. The other large producing countries and regions that supply the world markets are Colombia, Dutch East Indies, Venezuela, El Salvador, Guatemala, Haiti, Mexico, Costa Rica, Nicaragua, British India, Dominican Republic, Arabia, Puerto Rico, and British East Africa.

Coffee represents more than 50% of the total exports of Brazil, and is exported to 78 countries. The principal consumers of Brazilian coffee, in the order of their importance, are: The United States, France, Germany, Holland, Italy, Belgium, Sweden and Argentina.

The coffee tree grows in every State of Brazil, but its commercial cultivation is carried out principally in the States of São Paulo, Minas Gerais, Rio de Janeiro, Espírito Santo, Baía, Pernambuco, Paraná, and, on a smaller scale, Goyaz and Mato Grosso. Brazil contains 2,697,382,000 coffee trees.

The ports used to export Brazil's coffee, in the order of their importance, are: Santos, Rio de Janeiro, Vitória, Paranaguá, Angra dos Reis, Baía and Recife.

The annual average of the world's exportation of coffee during the five year period of 1935 to 1939 totaled 27,451,794 bags (about 132 pounds per bag) towards which Brazil contributed 15,095,200 bags more than the whole production of the rest of the world.

WORLD COFFEE EXPORTS
AVERAGE 1935/1939

COUNTRY	Bags	Percentage
Brasil	15,095,200	[illegible]
Colombia	[illegible]	14 47
Central America	3,175,047	11 57
Dutch East Indies	[illegible]	4 91
Venezuela	[illegible]	[illegible]
Mexico	[illegible]	[illegible]
Other countries	[illegible]	[illegible]
Total	27,451,794	100 00%

CONSUMPTION OF COFFEE

AS already shown, the principal consuming countries, and, naturally, Brazil's largest customers, according to the total volume of coffee imported, are: The United States, France, Germany, Holland, Italy, Sweden, Belgium and Argentina.

PER CAPITA CONSUMPTION OF THE PRINCIPAL COUNTRIES DURING 1938

COUNTRY	Kilos
Albania	0.343
Algeria	1.706
Argentina	2.175
Belgium	[illegible]
Canada	1.731
Chile	0 815
Czechoslovakia	0 721
Denmark	9 237
Egypt	0 573
Finland	7 278
France	4 444
Germany	3 909
Great Britain	0.400
Greece	1.111
Holland	5 891
Hungary	[illegible]
Iceland	4 641
Irak	[illegible]
Iran	[illegible]
Italy	[illegible]
Malta	1 700
Morroco (French)	0 544
Norway	[illegible]
Palestine	1 450
Poland	0 175
Portugal	0 900
Roumania	[illegible]
Syria and Lebanon	0 146
Sweden	[illegible]
Switzerland	4 139
Trans-Jordan	[illegible]
Tunisia	[illegible]
Turkey	[illegible]
Union of South Africa	1 706
United States of America	6 921
Uruguay	1.192
Yugoslavia	0.473

Handpicking

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AVERAGE 1935/1939

[illegible]	Bags	Percentage
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Colombia	3,972,396	14 47
Central America	3,175,647	11 57
Dutch East Indies	1,348,528	4 91
Venezuela	733,304	2 67
Mexico	575,420	2 10
Other countries	2,551,299	9 29
Total	27,451,794	[illegible] 00

PER CAPITA CONSUMPTION OF THE PRINCIPAL COUNTRIES DURING 1938

COUNTRY	Kilos
Albania	0 543
Austria	1 705
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Denmark	9 237
Egypt	0 573
Finland	7 278
France	4 444
Germany	[illegible] 900
Great Britain	0 400
Greece	1.111
Holland	5 891
Hungary	0 230
Iceland	4 641
Irak	0 279
Iran	0 035
Italy	0 826
Malta	1 700
Morroco (French)	0 544
Norway	6 666
Palestine	1 450
Poland	0 175
Portugal	0.900
Rumania	0 153
Syria and Lebanon	0 146
Sweden	8 382
Switzerland	4 139
Trans-Jordan	0.990
Tunisia	0 890
Turkey	0 323
Union of South Africa	1 706
United States of America	6 921
Uruguay	1 192
Yugoslavia	0 473

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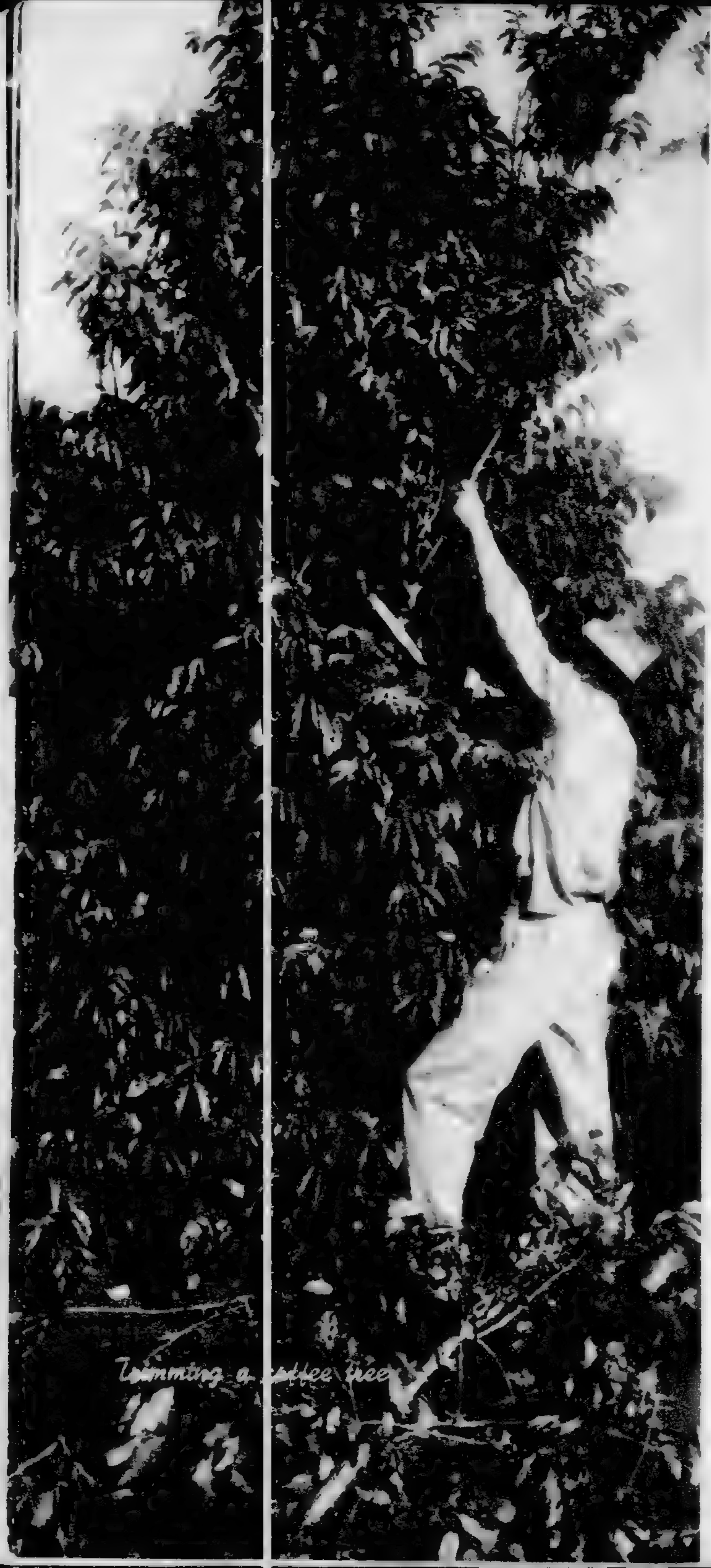


Trimming a coffee tree

THE FRUIT OF THE COFFEE TREE

THE fruit of the coffee tree, when ripe, is termed the "cherry" because of its similarity to the fruit of the cherry tree. When in the dried pod, it is called "coco". The immature fruit, is green in color and gradually turns red, later becoming dark red and, when fully ripe, almost black.

The seeds of the coffee fruit are protected by various coverings. The first is the **Epidermis,** or **integument** (Epicarp), covering a gelatinous layer, sweet and viscous, which is the **pulp** or the mesocarp, within which there are two separate beans, juxtaposed on their flat sides. These beans are enclosed in a thick and somewhat resistant layer (**endocarp**), called **parchment.** With the removal of the parchment the beans, or seeds, are still covered by a tegument composed of a very thin layer (spermoderm, i. e., the skin of the seed) which becomes loose from the berry when it is treated in the polishing machine or, eventually, during the process of roasting.

BOTANY OF THE COFFEE TREE

THE coffee tree is a native African plant, **dicotyledonous** of the class of the **angiospermae,** of the sub-class of the **sympetalae,** order of the **rubiales,** family of the **rubiaceae** of genus **Coffea,** sub-genus **Eucoffea.** Only the **Eucoffea virescentes** division comprises the plants that give usable coffee.

In the genus Coffea three principal species are cultivated for the coffee industry; the Arabica, Liberica and the Robusta. The Arabica species is the most important, accounting for 90% of the coffees consumed in the world. This was the only variety cultivated until about 1865.

The Arabica variety, which is the common coffee tree of Brazil, is a small tree or shrub of beautiful appearance and grows from 8 to 16 feet high. The trunk is straight, smooth, hard and yellowish in color. The branches are long, thin and flexible. The leaves are simple, spear-shaped, somewhat leathery, dark green on the upper part and pale green underneath with a short leaf stem.

The flowers are small, similar to those of the jasmine or the orange tree. They bloom in clusters and have five petals, five stamens and five sepals. The single pistil is connected to the ovary, which is inferior and divided in two compartments, each with one ovule which, once formed and fully developed, produces the fruit, or cherry, each containing two coffee seeds or beans. Sometimes an ovule opens prematurely and, in such cases, there is only one bean in the fruit which is circular or elliptical in shape. It is called Mocha in Brazil. "Snail-shaped" or "round" coffee, are expressions used to describe this type of coffee.

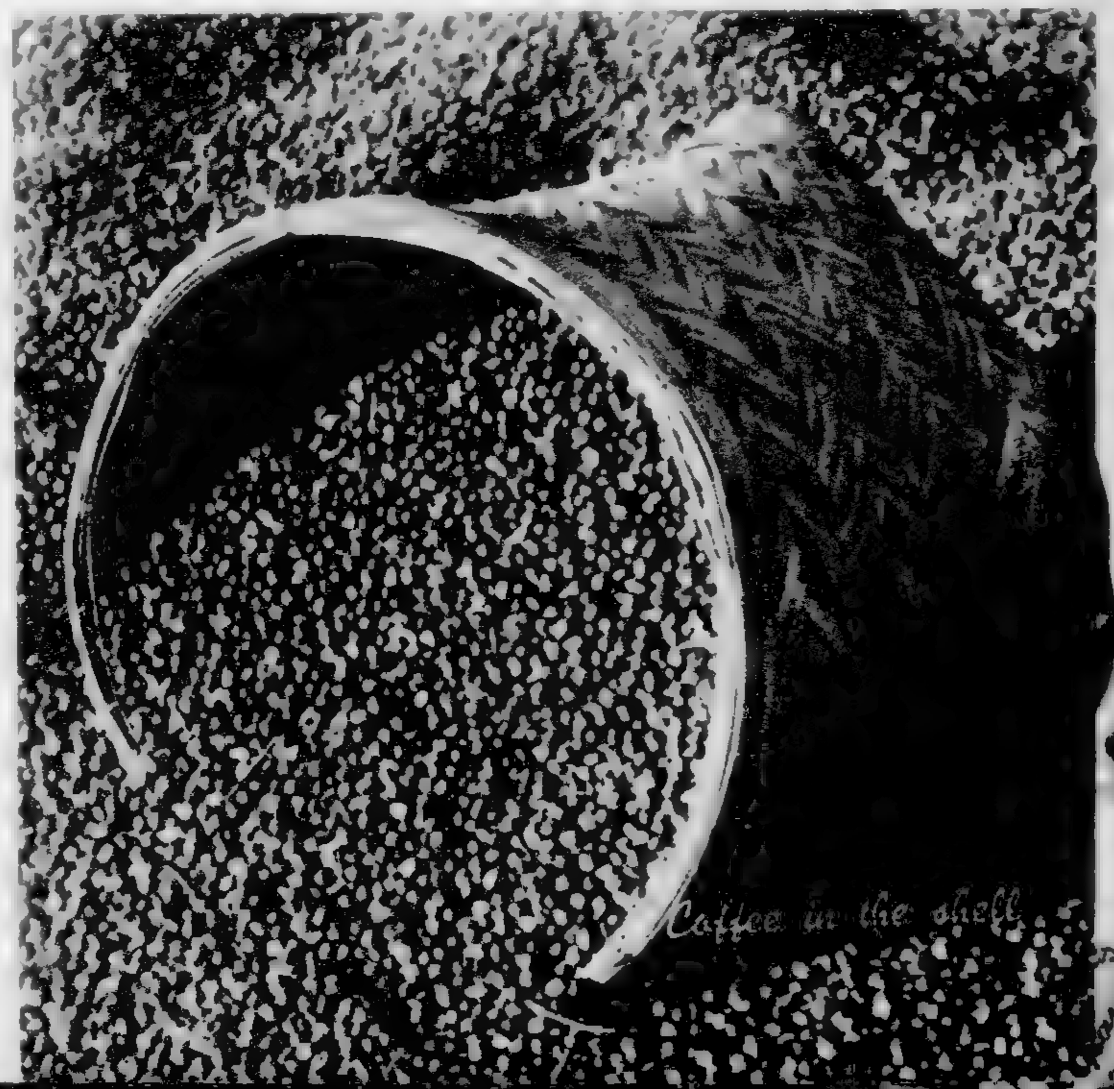
The Arabica coffee tree, transplanted from its habitat in Abyssinia and Arabia, had to adapt itself to new conditions of soil and climate, resulting in sub-varieties which may differ in certain details from the general, classical and characteristic lines of the original Arabica coffee tree. The better known sub-varieties are the following: The Bourbon (Mascarene Islands), the Java (South Isles), the Mexican (Mexico), the Coban (Central America), the Blue Mountain (West Indies), the Bogotá (Colombia) and, in Brazil, the Brazilian coffee tree, the yellow of Botucatu (of yellow color when fully ripe), the Murta (with small leaves), and the Maragogipe (giant coffee tree of Brazil), discovered in Baia and cultivated today in various producing countries.

The **Liberica** species is larger and sturdier than the Arabica. It is taller, 26 to 50 feet; the leaves are larger, thicker and tougher. The flowers, forming dense clusters, generally have seven or eight petals but, at times, only five, like the Arabica species. The berries are large and they do not fall from the tree when ripe.

The **Robusta** species is very rugged and is more or less of the same height as the Liberica, but its shape is roundish or elongated. The leaves are elliptical, thinner than those of the Liberica species. It flowers earlier than other species. The beans are somewhat round.

The Liberica and Robusta species, the culture of which is of relative recent date, were chosen because of their resistance to pests and diseases, especially the fungus known as **hemileia vastatrix** which ruined some Asiatic plantations. The Liberica, in spite of its vigorous appearance, did not come up to expectations. The Robusta seems to offer effective resistance to fungi. These species, and others akin to them, are cultivated mainly in low, humid and very hot regions. The coffee is of inferior quality as compared with the product of the Arabica species, which is the only one cultivated in Brazil, with the exception of the so-called "Conillon", a corruption of "Quillou", a coffee tree of the Robusta species, grown in some zones.

Various species are also cultivated in other regions of the world. Of these we shall mention the following: **Stenophylla, Canephora, Excelsa, Uganda, Abeokuta, Dybowski, Congensis, Dewouwri.** Mention should also be made of the **Mauritana, Bonnieri** and **Humboltiana,** species which have the peculiarity of total absence of caffeine. In various experimental stations the hybrids are constantly being studied; the best known among them being that which is obtained by the crossing of the Arabica and the Liberica.



Coffee in the shell

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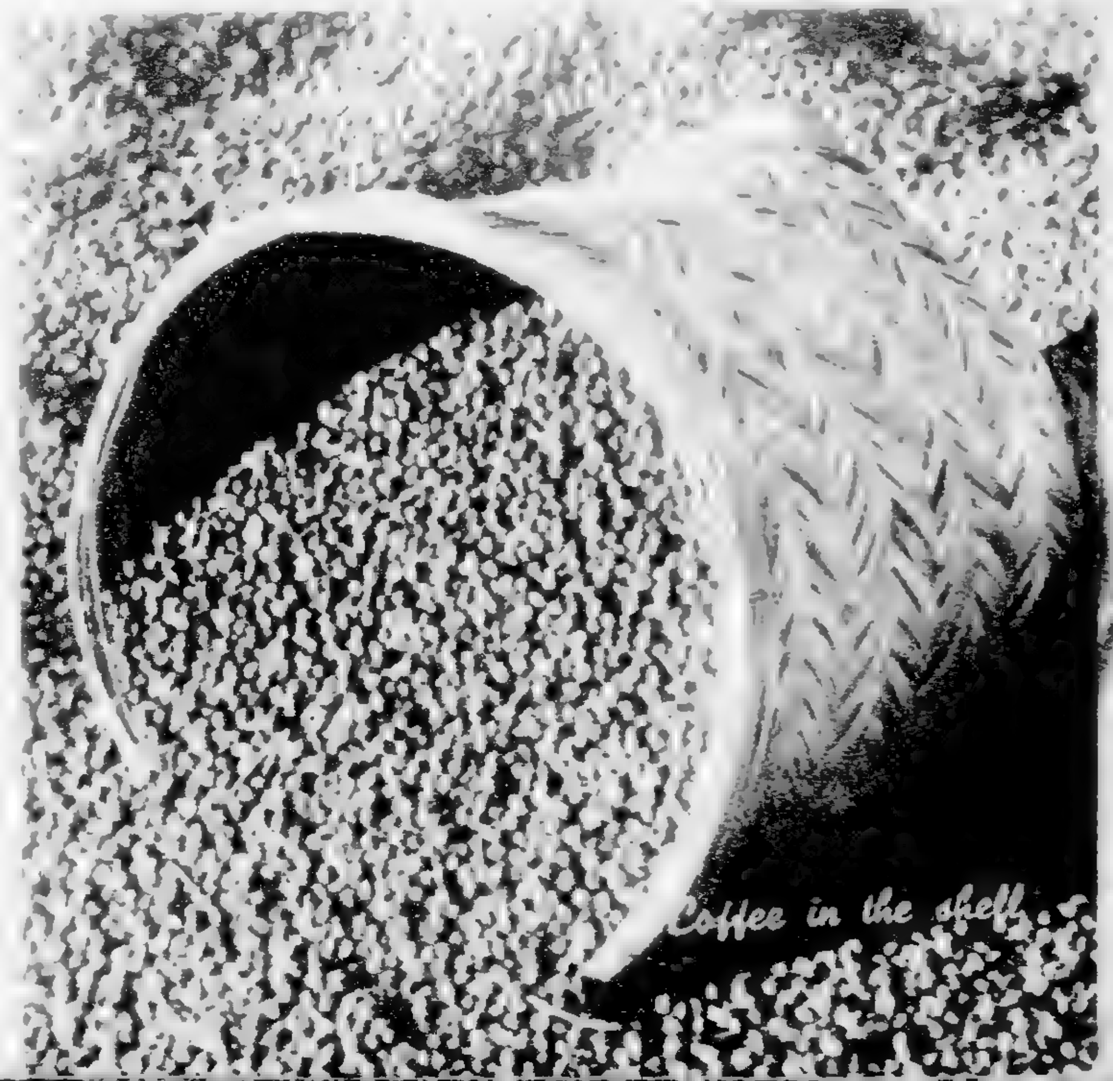
The Liberica and Robusta species, the culture of which is of relative recent date, were chosen because of their resistance to pests and diseases, especially the fungus known as **hemileia vastatrix** which ruined some Asiatic plantations The Liberica, in spite of its vigorous appearance, did not come up to expectations. The Robusta seems to offer effective resistance to fungi These species, and others akin to them, are cultivated mainly in low, humid and very hot regions. The coffee is of inferior quality as compared with the product of the Arabica species, which is the only one cultivated in Brazil, with the exception of the so-called "Conillon", a corruption of "Quillou", a coffee tree of the Robusta species grown in some zones.

Various species are also cultivated in other regions of the world. Of these we shall mention the following: **Stenophylla, Canephora, Excelsa, Uganda, Abeokuta, Dybowski, Congensis, Dewouwri.** Mention should also be made of the **Mauritana, Bonnieri** and **Humboltiana,** species which have the peculiarity of total absence of caffeine In various experimental stations the hybrids are constantly being studied; the best known among them being that which is obtained by the crossing of the Arabica and the Liberica



Coffee in the shell

Bagging coffee on the plantation

soil

PROPAGATION AND CULTIVATION

THE coffee tree, being avid for azote and potash and having extensive root development, requires deep and porous soil, rich in humus. Brazilian growers, when choosing the most suitable lands for coffee plantations, are guided to a large extent by the existing vegetation.

The proper soil, rainfall, the amount of sun, and the wind currents are among the factors that influence the successful development of coffee plantations.

The preliminary work before planting consists in cutting down the small vegetation and then felling the larger trees. Next, fire is set to the stubble to destroy the seed of plants harmful to the coffee tree, while the stumps of the trees are uprooted and the ground cleaned. Alignments are set up by means of stakes, which indicate where the holes are to be dug, and the plantation divided into blocks, through which pass the roads to facilitate the movement of vehicles for transportation of coffee at the time of the harvest.

The seeds are selected from ripe berries of adult trees and their selection is based on their appearance, fecundity, and uniformity, preference being given to berries growing in the middle of the branches, halfway up the bush. Seeds are dried in the shade, in layers of from 1-1/2 to 2 inches, and stirred once a day. There are growers who pulp the seeds by hand, letting them dry in the parchment. After the seeds are ready, from eight to twelve of them are placed in each hole, which must be prepared in advance by proper fertilization with manure and residues to give the necessary heat to speed up the germination. At the proper time, the excess plants are dug out, and, naturally, the less vigorous ones are eliminated. In Brazil this method of direct planting is considered the most economical because of the considerable size of the plantations although the system of nursery beds, customary in Central America and Colombia, is also used. In many countries a single tree is planted in each hole. In Guadeloupe, however, it is customary to plant two coffee trees together. In Brazil, groups of three to six coffee trees are no rarity.

When seedlings are required for transplanting, which is the process adopted in many producing countries instead of direct planting, the nurseries are prepared under shade, the seedlings being raised in pots, tubs or small baskets, or otherwise by locating the nurseries on the cleared land. For the purpose of replanting, preference is given to the method of using the small baskets. The coffee plantation under development must be protected against the heat of the sun by temporary shading. In some countries the shading is made permanent.

Coffee cultivation includes careful weeding so as not to stifle the coffee trees. The number of weedings vary, according to requirements, from two to five a year and, at times, more often. In Brazil the weeding is generally done with a long-handled hoe. In other countries mechanical weeding is used and this requires level ground. The shading, pruning and manuring is done to a greater extent on foreign than on Brazilian plantations, the English and Dutch being the keenest advocates of this process of cultivation.

DISEASES AND PESTS OF THE COFFEE TREE

THE coffee tree, in keeping with other cultivated plants, may be adversely affected by pests and diseases, in addition to unfavorable climatic and soil conditions. The diseases include numerous cryptogamic conditions, fungi, phanerogamic parasites, moss and lichens. Among the pests which may beset coffee are: moths, ants, termites, wine-fretters, cochineals, caterpillars, beetles, wood-worms, butterflies, cicadas, locusts, vermins, rodents, snails, birds, vermicular diseases, etc.

Unfavorable meteorological conditions are also very harmful to the coffee tree. Excessive cold, strong winds, frost, hail, extreme heat, dampness, and drought are some of these harmful influences. Frost has destroyed entire crops in the State of São Paulo. All of

Spreading washed coffee

Bagging coffee on the plantation

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washed coffe

Coffee drying

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HARVEST

THE flowering period of the coffee tree in Brazil varies according to the State in which it is produced. In São Paulo there are three flowerings per year, generally from August to October. In Brazil the coffee tree, if developed under most favorable conditions, begins to bear in the third year, starts to produce in the fourth, reaches full production in from six to eight years, and closes its productive cycle at the end of thirty or forty years.

The volume of the crop varies. Generally speaking, the coffee tree that gives a large return one year will give a small return the following year, as if the plant, weakened by large bearing, felt the need of strengthening itself in the interval so as to produce anew. Frequently there are crop failures, even in the case of healthy trees.

In Brazil coffee picking begins in April and continues thereafter until all of the mature cherries have been harvested, starting when the tree bears a maximum of ripe fruit. Before picking starts the ground under the trees is carefully cleared and swept so that the cherries which fall in the picking process may be clean when gathered.

THE COFFEE CLEANING PROCESS

THERE are two procedures in the treatment of the coffee berry preparatory to drying. These are known as the wet and dry methods. What are designated in the trade as "washed" coffees are produced by the "wet" method. This begins by dumping the cherries into tanks filled with water, which washes the cherries and eliminates all foreign matter such as earth, twigs, stones, etc. The cherries then are carried into running streams or sluices which separates the ripe and unripe cherries.

The fruit is then put through a machine which removes the pulpy portion and liberates the beans.

In some countries fermentation of the cherry is utilized to facilitate the cleaning operation but it is not generally practiced in Brazil because it is not deemed conducive to the production of good coffee.

The next step in this wet method is the very important operation of slow drying, under shade rather than bright sunlight. The drying process is often completed in mechanical driers. When the coffee has reached the proper drying point it is placed in bins where it remains for some time and is then transferred to the treating machines which include the following principal operations: hulling, separating, mechanical sorting and, finally, hand sorting. This procedure is sometimes followed by a further treatment which consists of removing the parchment and polishing the beans, a process that is followed by sorting, by means of sieves, according to sizes and quality. Then it may be said that the industrial preparation is complete.

In the dry method the coffee, including ripe, dry and immature beans along with earth clods, twigs, small stones and gravel as well as other impurities, is passed through washing tanks. This separates the dry, ripe and immature beans, thereby eliminating all impurities in one single process. The coffee is then spread on the drying ground and exposed to the sun for the length of time necessary for it to reach the degree of dryness required for subsequent treatment in the machines. The drying period may last from 15 to 20 days and sometimes longer. During the drying process, the beans acquire uniform color

GRADING

COMMERCIALLY, coffee is classified according to types and, of course, according to quality. In the early days the product was exported as it came from the coffee plantations. Later, however, the advantage of selective methods to meet commercial requirements became evident. Gradually, grades were established according to the appearance of the beans and, later, according to the number of defects and impurities. Based on this principle, Brazil founded its official classification of coffee, providing for seven types, from 2 to 8, in order of quality.

On the way to the drying ground

These types are based on the number of defects and impurities in samples taken from the lot to be classified, each sample containing 300 grams.

As a basis for classification of defects the black bean, which is the most common defect, is taken as the basic unit and the imperfections are calculated according to the following scale

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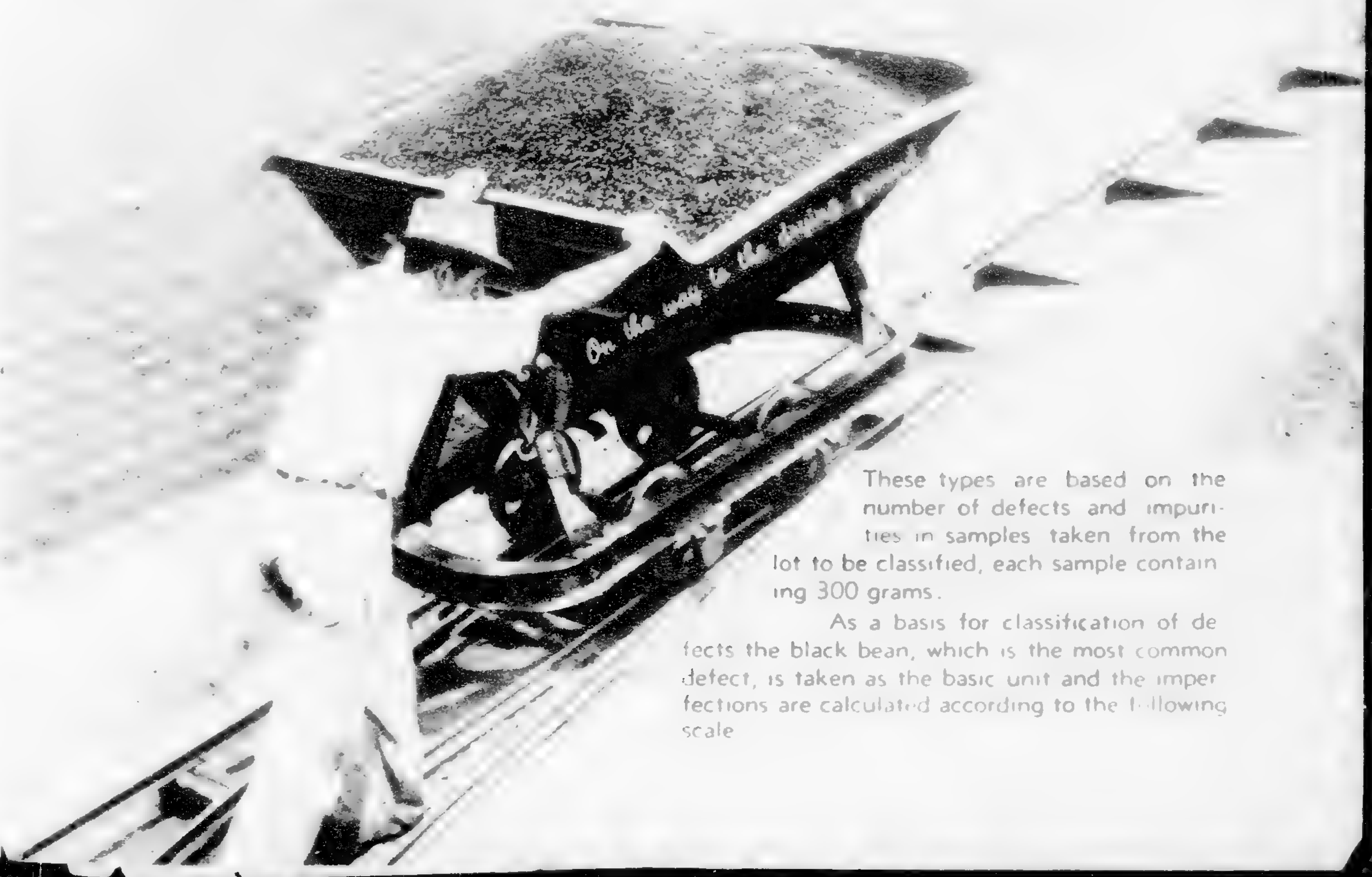
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Stirring coffee

COFFEE GRADING TABLE

(30) GRAMS OR 2/3 OF A POUND)

Type	2	4 defects
»	2 3	8 »
»	3	12 »
»	3 4	19 »
»	4	26 »
»	4 5	36 »
»	5	46 »
»	5 6	66 »
»	6	86 »
»	6 7	123 »
»	7	160 »
»	7 8	260 »
»	8	360 »

In addition to black beans, the following foreign matter is classed as defects: earth pods, beans when immature, broken or sour beans, quakers, husks, pods, etc. Thus, for example, if a sample shows 12 defects it belongs to type 3; if it contains 86 defects it is in type 6; if it contains 60 it is type 7, etc.

The following table explains how the above mentioned foreign mater is classified to make up a defect.

CLASSIFICATION OF DEFECTS

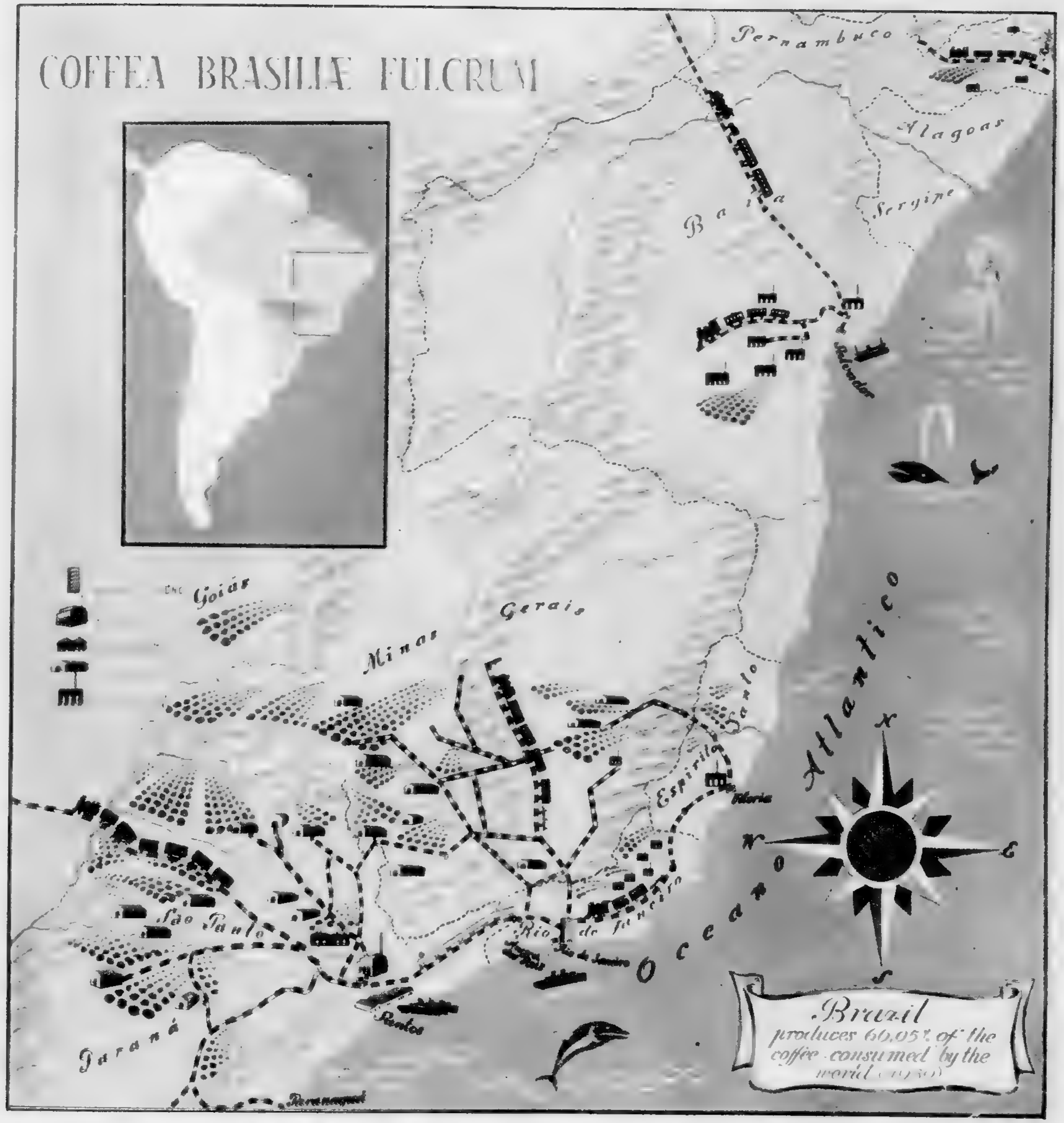
1	Large stone or earth clod.	5 defects
1	Medium stone or earth clod	2 »
1	Small stone or earth clod	1 »
1	Large twig.	5 »
1	Medium twig	2 »
1	Small twig	1 »
3	Shells	1 »
5	Green beans	1 »
5	Broken beans	1 »
2	Sour beans	1 »
5	Undeveloped beans	1 »
1	Large husk	1 »
2/3	Small husks	1 »
1	Pod	1 »
2	Sailors	1 »

It should be noted that for purposes of classification into types, the color, aroma, and flavor of the coffee or its appearance are not considered. For example, a coffee classified as type 2 may be of inferior drinking quality as compared with type 4 or 7. In view of this it is also necessary to describe the characteristics and other qualities of the product, as verified by cup tests. Cup testing is a comparatively recent development, having started at the beginnning of this century.

In describing coffee many factors are considered including appearance, the style, size of bean (determined by the use of screens), the form and texture of the bean, and, as to flavor, whether or not it is bitter, mild, astringent, harsh, mellow, pungent, neutral, dry, rancid, etc. The aroma, body, and acidity are also taken into account in the cupping process.

As to the drink, coffee is classified by the trade as strictly soft (sweet taste, very mild), soft (sweet taste, mild), hard (harsh taste), and "Rioy" (harsh, bitter taste).

As to the bean, coffee is classified as extra large bean (screens 18 to 20), good to large bean (screen 17), good bean (screen 16), medium bean (screen 15), small bean (screens 13 and 14), peaberries (screens 9 to 13). The screens for classifying flat bean coffees are of round openings and for the mocha coffees oval openings.



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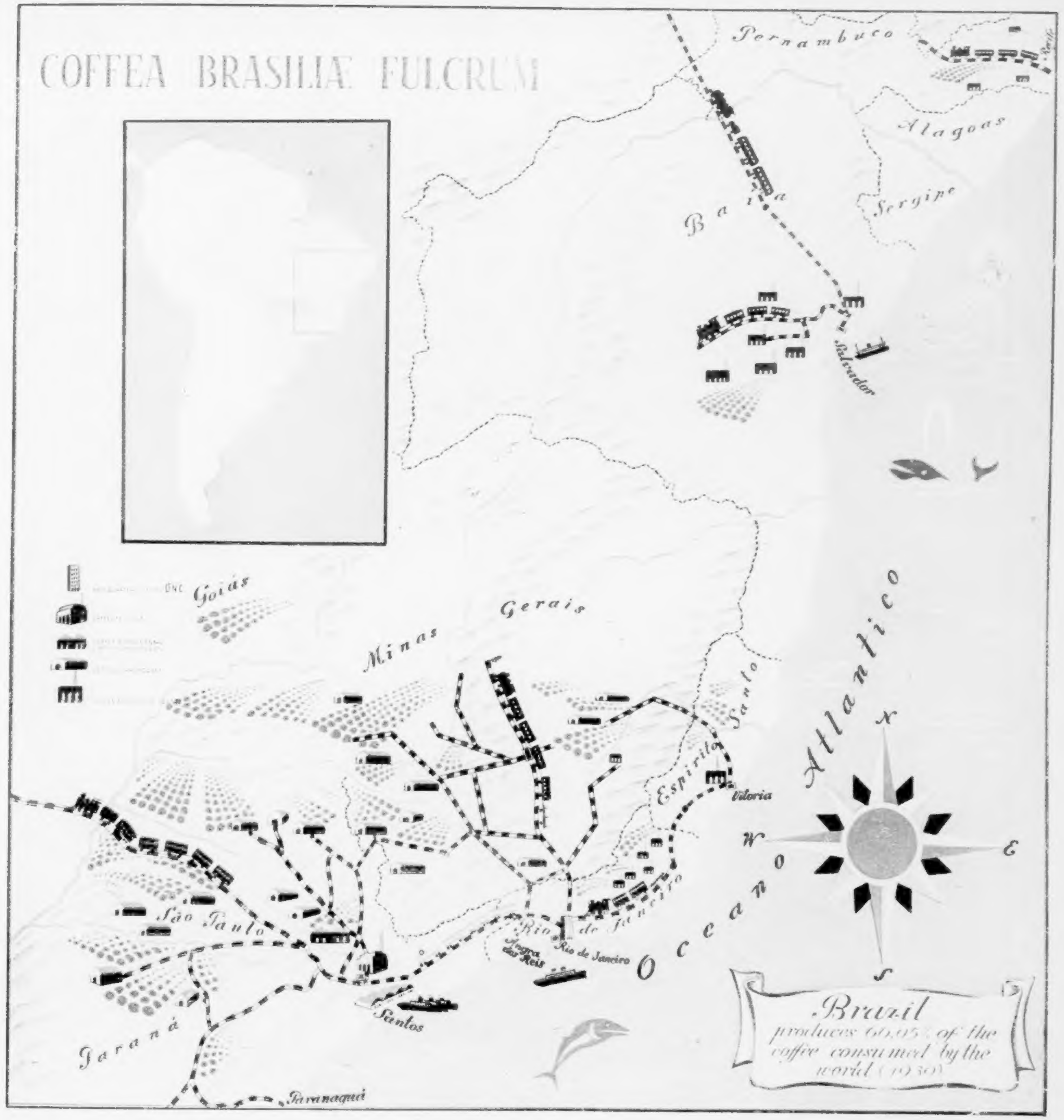

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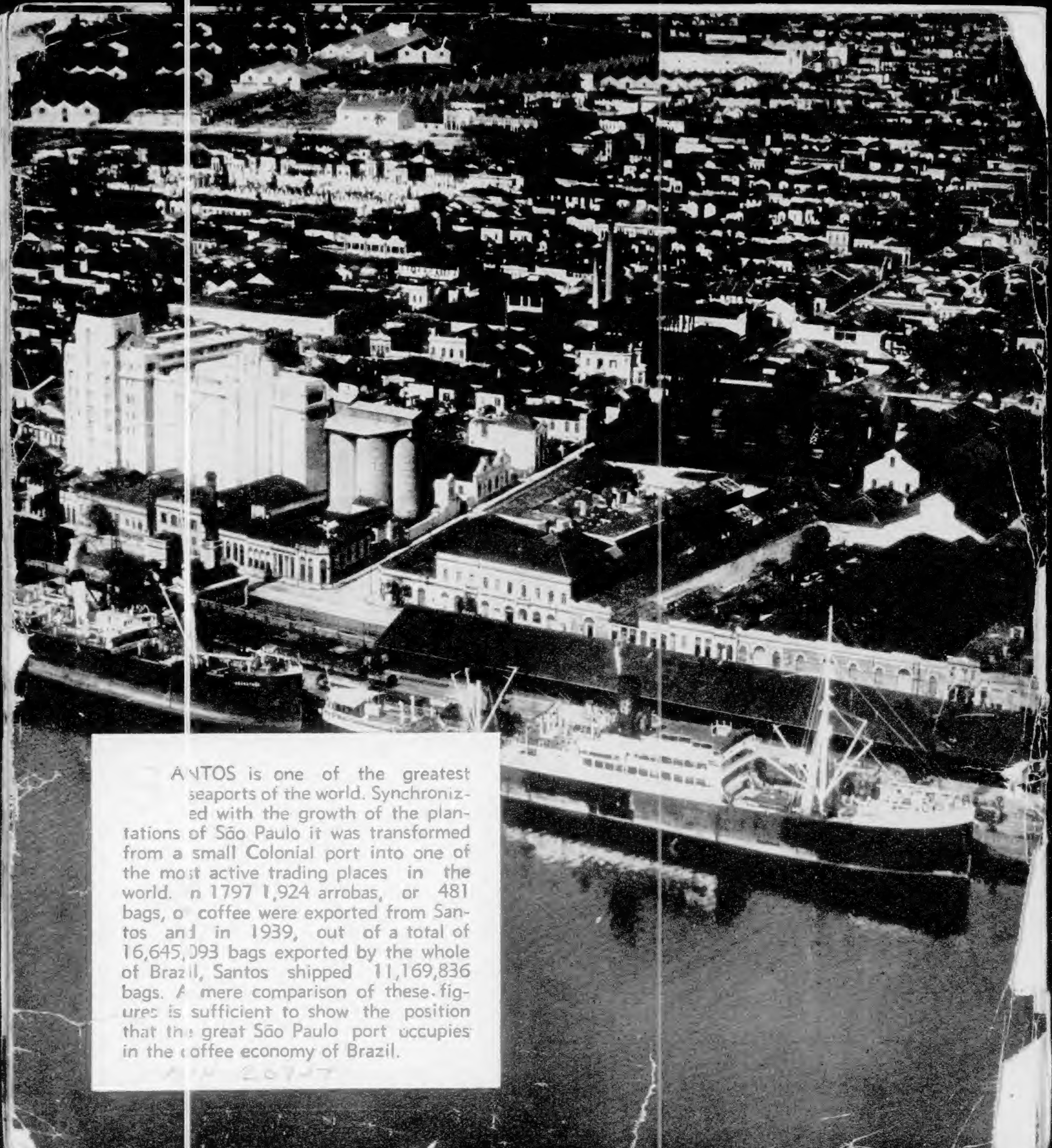
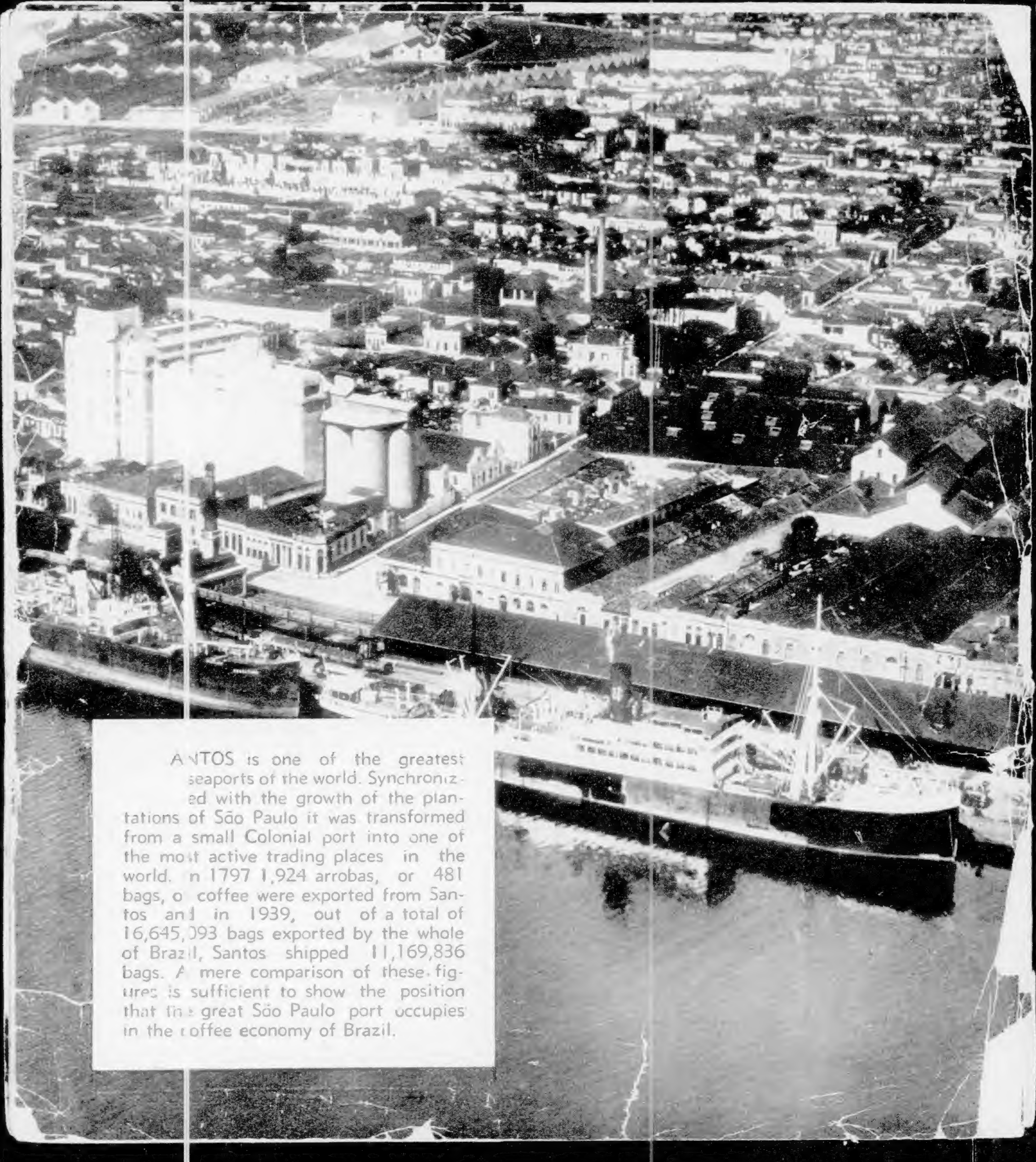


ANTOS is one of the greatest seaports of the world. Synchronized with the growth of the plantations of São Paulo it was transformed from a small Colonial port into one of the most active trading places in the world. In 1797 1,924 arrobas, or 481 bags, of coffee were exported from Santos and in 1939, out of a total of 16,645,093 bags exported by the whole of Brazil, Santos shipped 11,169,836 bags. A mere comparison of these figures is sufficient to show the position that the great São Paulo port occupies in the coffee economy of Brazil.



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